Interim Report

the ALBERTA REGIONAL FARM ENTERPRISE RESEARCH PROJECT 1981

VERMILION REGION

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THE ALBERTA FARM ENTERPRISE RESEARCH PROJECT 1981

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SECTION I

INTRODUCTION

The Alberta Regional Farm Enterprise Research Project was initiated by the Production Economics Branch in the Vermilion Region in the winter of 1979. The main objective was to obtain 1978 production costs and returns estimates for the main farming enterprises, namely, crops, cattle feeding, hogs and milk production. Following an appraisal of the 1978 study year and the general enthusiasm expressed among the participants, it was felt that the project should be continued, but that changes were required to enhance the analysis of raw data.

The number of farms participating during the last three study years were 45, 54, and 43 for 1978, 1979, and 1980, respectively. A major improvement to the study method occurred in 1979 when the questionnaire was revised and the method of analysis computerized. Since then, changes made to the questionnaire and computer package were kept at a minimum so as to allow participants to compare the performance of their farm over time. Reports summarizing the 1979 and 1980 study years were published in December, 1980 and June, 1982, respectively.

Approximately 79 per cent of the 1980 participants (34 farmers) were retained on study for 1981. Major enterprises studied in 1981 included cow-calf and cattle feeding, milk production, crops, and hogs. No attempt was made to study the sheep, egg and broiler enterprises. Also, during the 1981 study year, the Production Economics Branch exercised its concern about the success of beginning farmers by involving new farm entrants in the project. The general consensus was that technical/-agronomic data collected from beginning farmers would be desirable in designing special programs to assist the beginning farmer. Consequently, the Manager of the Alberta Agricultural Development Corporation in the Vermilion Regional Office provided assistance in securing 19 additional participants for the 1981 study year. A total of 54 farm records were completed and this report summarizes the results from these 1981 farm records obtained.

The degree of enterprise mix on the farms surveyed was quite high, as 80 per cent had both grain and livestock on their farms. Of the 11 specialized farms on study, 7 were hog farms while the remaining 4 produced grain. A break down of the enterprises analyzed and their respective numbers was as follows:

Enterprise	Number Analyzed
Wheat	39
Canola	25
Barley	57
Oats	35
Summerfallow	31
Hay	40
Greenfeed	12
Silage	13
Mixed Grain	4
Hog Finishing	3
Hog Farrow-Weaning	4
Hog Farrow-Finish	7
Cattle Finishing	4
Cow-Calf	24
Cow-Calf Finish	9
Milk Production	7
TOTAL	314

Objectives

The Alberta Farm Enterprise Research Project was developed to help the agricultural producer analyze his farming operation(s) using the enterprise approach. Different from the original Farm Business Analysis (F.B.A.) program, this project was designed to provide the participant with an analysis of each crop and livestock enterprise on his farm. Each participant received a computerized print-out for each enterprise studied on his farm, and also a personal report which compared his results with that of the group average.

Extension personnel have often found themselves short of enterprise/whole farm costs and returns information when dealing with farm clientele at the field level. Physical and financial production data for different farming enterprises vary not only within the region, but also from farm to farm depending upon the enterprise mix, moisture levels during the growing season, soil type, management practices, etc. Consequently, the objectives of the Alberta Regional Farm Enterprise Research Project are as follows:

1. To document detailed input/output and costs/returns data by enterprise, as well as, on a farm basis for the six farming regions of Alberta;
2. To document enterprise/whole farm data (physical and financial) that accurately describe the relative performance of beginning farmers;
3. To provide each participant with accurate and detailed costs/returns information on both an enterprise and total farm basis;
4. To provide each participant with a comparative interpretation of his farming enterprise(s) relative to the total group studied in the region;
5. To evaluate the relative performance of different farming systems on a regional basis and changes in performance over time;
6. To regularly monitor and periodically update the above data base;
7. To establish and maintain contact with the farming community, and to be able to respond promptly to the needs of the producers;
8. To provide headquarters staff, agri-business, and the extension field staff with accurate and comprehensive resource information.

The Study Sample

The Vermilion Region (North East Region) is predominantly a mixed farming area. Farmers in this area usually undertake complimentary enterprises in order to maximize their farming income. The most common enterprise mix used is that of either grain and cattle or grain and

hogs. According to the 1981 Census[1], there were 9,999 farms in the Vermilion Region with an average acreage of 751 acres and an average value of farm sales of $44,750. Approximately 25 per cent of the farms in this region had farm sales in excess of $50,000. As to the classification of farms 3,256 "small grain" farms, 2,352 cattle farms and 1,358 wheat farms all reported farm sales of over $2,500.

Participants for the project were selected on the basis of their main farming enterprise. To ensure that all of the twelve agricultural districts in the Region were well represented, the Regional Farm Economist and District Agriculturists were asked to select the participants for the desired enterprises. A total of 16 different enterprises were analyzed relative to the 1981 calendar year.

The following map indicates the area of study, and also shows the location of the agricultural district offices within the Vermilion Region.

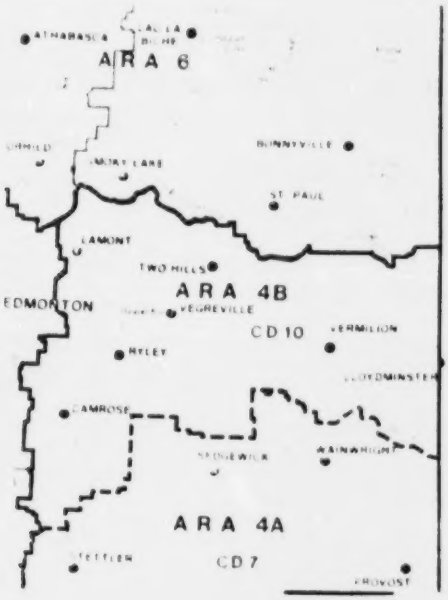

FIGURE 1 VERMILION REGION

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1 1981 Census of Agriculture for Alberta - Alberta Statistics Branch, November, 1982.

As many as three personal visits were necessary by some participants to record the data required for a complete analysis. Participants retained on study from previous years were much easier to analyse as their investment and inventory data were already established and only required up-dating. Livestock producers were contacted early in the year to accurately establish their beginning year inventory. The final visit occurred in the early part of 1982 to record total annual farm expenditures and receipts for 1981.

The questionnaire which was used to gather the information contained three sections. Section I was simply a record of all expenses and receipts for the farm and was very similar to the information required for income tax purposes. Section II was designed to record data specific to the enterprise and essentially relied on the participant to best allocate his total farm expenses and receipts for each enterprise. Section III involved the recording of physical and financial data specific to each enterprise that was not recorded in Sections I and II.

Method of Analysis

All costs and returns data presented in this report are on a per unit of production basis. For example, information for grain production is on a per acre and per bushel basis, while livestock is on a per head sold basis. In the summary pages, costs were calculated for each category of expense by dividing the total of all expenses by the total number of units of production on the survey. For example, the fertilizer expense for wheat grown on five farms is calculated by adding the total fertilizer expense for each farm, and then dividing by the total wheat acreage on the five farms. Thus, the costs and returns were weighted on a per unit of production basis, rather than calculated using the simple average approach. In some cases, certain cost items were not incurred in an individual operation and this was accounted for in the procedure used in determining the average costs for each acre and animal unit on study.

Receipts: Returns for each enterprise represented the actual figures recorded for income tax purposes. However, the total value of

the crop grown during the study year had to be estimated since normally, the total harvest is not completely sold until sometime during the next calendar year.

Livestock receipts coincided directly with the amount recorded for livestock sales. In many instances, livestock producers were either in an expansionary or liquidating phase and as such cash receipts would not truly represent an average year of livestock production. Thus, by valuing the herd at the beginning and ending of the year and recording the livestock inventory change in the receipts section, a more accurate assessment can be made of the livestock operation.

Labour Costs: A majority of the study participants relied on hired part-time labour to perform some of the necessary farming operations. Total labour cost as reported in the year-end statement was allocated to the various enterprises on the farm by the participants themselves, as they were most familiar with what the hired "hand" was doing. The operator's labour was valued at an amount comparable to that required to hire a skilled farm labourer. The labour provided by the operator's wife represented the work that she actually did on a given enterprise. Child labour which was quite common in livestock operations was valued below the minimum wage rate.

Material Costs: Most supplies used in grain and livestock production were bought during the production year and recorded as such in the year-end statement. However, it was necessary to record the inventory of many inputs such as fertilizer, seed, and chemical, since these inputs might have been purchased from the previous year for use in the production year under study. An attempt was made to accurately monitor all costs of inputs used during the twelve month production period, regardless of when purchased. Home-grown seed and feed were valued at market prices and entered in the operating cost section of the enterprise analysis.

Miscellaneous Costs: Property taxes, insurance, utilities, etc were valued at actual cost and allocated to each enterprise by the study participant. Also included in this category of expense were the purchase of small tools, accounting and legal fees, and building repairs.

Machine Operation Costs: Machine operating costs included repairs, fuel, lubrication and insurance expenses. Machine operating costs were

categorized into various classes (to allow for easier allocation to a specific enterprise), and included farm power machinery, general crop machinery, haying machinery, specialty crop machinery, dairy and beef equipment, swine equipment, poultry equipment, general livestock equipment, and miscellaneous livestock equipment. Most study participants provided the cost of fuel and repairs for car and power machinery.

Investment: An opportunity cost was calculated on the equity portion for investment items such as land, breeding herd, improvements, machinery, and supplies. Study participants indicated the market value of all investment items and also the amount of liabilities in the order of long term, intermediate, and short term loans. With this information, the equity position was established and a long term percentage rate of return was applied to arrive at an opportunity cost on the operator's investment. The designated rate of return on equity established by the participants ranged from 7 per cent to 12 per cent. Opportunity costs are indicated in Section C, under the heading of Production Costs and together with the operating costs, long term interest paid, and the value of unpaid labour make up the total production costs.

A depreciation rate for each category of investment was also established by the study participant. As indicated earlier, machines were grouped into various categories in order to ease the task of allocating the operating and investment costs. This approach also permitted the participant to use a suitable depreciation rate for each category of farm equipment. An allowance for depreciation on buildings improvements, and machinery is indicated in the Operating Cost Section of the enterprise report.

SECTION II

SUMMARY OF COSTS AND RETURNS - CROPS

This section provides detailed information on the average regional costs and returns for the various crops analyzed. Seven (7) of the 54 farms on study did not provide any costs and returns data on crop production. As in 1979 and 1980, barley was the most extensively grown cereal grain. It was grown by 85 per cent of the participants who had crop enterprises. Costs and returns for wheat production were reported by 68 per cent of the farms in 1981. Canola and oats were also grown extensively by the study participants.

The data provided in the costs and returns Tables 7 to 20 are divided into five sections. Section A provides information related to returns. Acreage per farm is simply the average size of the crop grown by study participants in a particular group. The yield per acre is a weighted average for the acres under study. Receipts per acre include an estimated total return for the crop and also miscellaneous crop receipts, such as, insurance and stabilization payments, value of aftermath, patronage payments, etc. Receipts per acre and receipts per bushel or ton are shown for easy comparison.

Section B presents the operating cost data which basically include all "out-of-pocket" costs and an allowance for depreciation. Most participants have expressed an interest in knowing their operating cost for each bushel or ton produced as it can be interpreted as a short-run breakeven price required to cover their cost of production.

Section C indicates the total cost of production on a per acre and per unit of production basis. Total operating costs, plus an opportunity cost on the equity portion of investment, plus long term interest paid and unpaid family labour equal total production costs. Any income received over and above the total production cost figure is a return to management or profit.

Section D provides a summary of the costs and returns for a given crop. The return over operating costs is usually the figure that is referred to when choosing among different crops. Costs which are not

included in the operating cost section may be considered as general farm overhead and may not always be considered in decision making. In addition, many producers are most interested in knowing the return on investment for different farming enterprises. Total investment and labour as used by an enterprise are indicated in section E and are most useful for management purposes.

Tables 3, 4, 5, and 6 provide a summary of the costs and returns for the nine crops studied in the Vermilion Region. A cost comparison by land tenure (owned land versus rented land) is provided for barley, wheat, canola, oats, summerfallow, and hay. The cost structure for grain production on rented land differs from that on owned land as land cost is a cash item and is in all cases lower than the non-cash imputed opportunity cost on owned land. Assuming similar yields for both types of land tenure, higher operating costs but lower total production costs per bushel can be anticipated for the rented land versus owned land.

With the high cost of machinery many farmers have turned to renting land to either justify the purchase of equipment or to increase their overall farm income. Also, with land being the highest production cost input, many operators have used their limited money supply for buying equipment and turned to cash rent or crop share arrangements. Generally speaking, total production cost per unit of production is lower on rented land since the cash rent/crop share value is lower than the interest cost charged on the market value of owned land. However, the cash costs which include the cash rent/crop share are higher on a per unit of production basis for rented land compared to owned land.

With respect to the four major crops grown in the Vermilion Region, namely, wheat, barley, canola and oats, 1981 yields and consequent returns were well below average. It is also important to note that yields were reported to be significantly lower on rented land versus owned land for all the main crops. Possible reasons for this are:

1. Less use of fertilizers and chemicals on rented land;
2. More timely field operations on owned land;
3. Varying cultural practices by different tenants over time;
4. Tendency to intensify management and cultural skills on owned land versus rented;

5. Generally, due to the unfamiliarity with newly acquired rented land, management "know hows" are not optimized.

Operating costs per acre for wheat, barley, and canola were comparable averaging $81.49 per acre on owned land and $105.46 on rented land. Oats production on owned land had operating costs of $73.37 per acre as compared to $85.12 per acre on rented land. The remaining crops studied had operating costs considerably lower ranging from $33.25 per acre for hay on rented land to $80.89 for mixed grain production. It should be noted that costs and returns by land tenure were not available for mixed grain, silage and greenfeed. Operating costs per acre for summerfallow averaged $36.72 on owned land and $43.89 on rented land, and were viewed by many grain growers as crucial in deciding their rotation, especially, whether to continuous crop or fallow-crop. Depending upon the area in which the farm is located and the management ability of the producer, these costs may or may not be offset by the higher yields of fallow crops.

The return over operating costs in 1981 for all crops surveyed ranged from -$15.46 per acre for hay on rented land to $84.12 for canola on owned land. As to the four main crops grown in the Vermilion Region, returns over operating costs on rented land were $0.77, $6.73, $11.18 and $25.64 per acre for barley, oats, canola, and wheat, respectively. Due to the lower operating capital requirement for crop production on owned land, returns over operating costs were higher ranging from $31.06 per acre for oats to $84.12 per acre for canola.

Total production cost include the operating costs, an opportunity cost on the operator's equity portion of investment, interest paid on investment items, and a value for the operator's and family labour. If returns are short of covering these costs the operator will have to take a lower rate of return on his investment and labour, and would be forced to shift resources to more profitable activities in the long-run. However, if the total production cost is covered, the residual or profit can be interpreted as the amount left to compensate the operator for his risk(s) and management ability.

Only two crops surveyed in 1981 had sufficient returns to cover total production cost. These were wheat on rented land which had a return to management of $1.66 per acre and canola on owned land which had a return to management of $7.22 per acre. The other enterprises had negative returns to management ranging from -$3.71 per acre for wheat on owned land to -$36.20 for oats grown on owned land.

The following table is used to indicate the investment per acre for the crops surveyed in the Vermilion Region in 1981 (Table 1). Investment items shown include land, power and general machinery, and buildings and improvements. Investment is based on market value and in the case of land included both the operator's and landlord's portion of investment.

TABLE 1: SUMMARY OF INVESTMENT FOR CROPS GROWN ON OWNED LAND - 1981

CROP	LAND INVESTMENT	POWER MACHINERY	GENERAL MACHINERY	BUILDINGS & IMPROVEMENTS	TOTAL
	- - - - - - - - - - dollars - - - - - - - - - -				
Barley	649.88	87.13	45.06	37.41	819.48
Wheat	560.70	82.87	37.49	33.91	714.97
Canola	605.63	89.04	45.86	37.63	778.16
Oats	518.03	66.69	38.14	30.51	653.37
Summerfallow	591.43	82.66	48.59	41.30	763.98
Mixed Grain	522.79	52.59	32.01	24.23	631.62
Greenfeed	421.05	57.93	63.80	20.99	563.77
Hay	546.29	56.34	70.24	26.87	699.74
Silage	725.42	91.06	55.49	147.76	1,019.73

Study participants indicated their total labour input for each enterprise on the farm which was subsequently allocated to the hired man, the operator, and his family. Table 2 shows the total labour requirement for each crop analyzed. The average crop acre required 2.66 hours of labour at an average cost of $18.83 per acre.

The average costs and returns for all crops studied in the Vermilion Region are shown in Tables 6 to 15 inclusive. Operating costs are shown in detail as many participants are interested in comparing specific cost items such as cash rent, crop share, fuel and repair, hired labour, etc., on a per acre basis over time.

TABLE 2: LABOUR REQUIREMENT FOR CROPS SURVEYED IN THE VERMILION REGION - 1981

CROP	HOURS PER ACRE	COST ($) PER ACRE
Barley	2.48	18.18
Wheat	2.40	18.14
Canola	2.01	15.25
Oats	2.75	18.22
Summerfallow	2.62	19.00
Mixed Grain	2.24	17.87
Greenfeed	4.33	27.47
Hay	2.16	14.62
Silage	2.98	20.71

TABLE 3

SUMMARY OF COSTS AND RETURNS FOR CROPS SURVEYED - 1981
VERMILION REGION

	Barley		Wheat		Canola	
	Owned	Rented	Owned	Rented	Owned	Rented
Number of Farms	42	15	33	6	19	6
Average Acreage	239.74	206.36	185.70	107.00	149.39	256.67
Yield (Bushels/Acre)	47.70	36.51	28.48	23.58	25.84	19.59
RECEIPTS ($/Acre)	126.75	102.34	147.66	134.11	163.31	117.53
	- - - - - - - - - - - - - - - - - - Dollars Per Acre - - - - - - - - - - - - - - - - - -					
Material Cost	34.69	31.01	34.39	33.19	29.28	30.36
Machine Operating	14.05	12.30	12.86	13.01	12.49	14.89
Miscellaneous	21.88	43.11	20.17	41.99	21.32	49.14
TOTAL CASH COSTS	70.62	86.42	67.42	88.19	63.09	94.39
Depreciation	14.91	15.15	12.34	20.28	16.10	11.96
TOTAL OPERATING COSTS	85.53	101.57	79.76	108.47	79.19	106.35
Interest on Equity	46.42	13.65	45.24	10.37	55.99	4.29
Long Term Interest Paid	10.48	7.18	10.25	3.79	7.59	10.36
Unpaid Labour	14.67	7.87	16.13	9.82	13.31	6.65
TOTAL PRODUCTION COSTS	157.09	130.27	151.37	132.45	156.09	127.65
Return Over Operating Costs	41.22	0.77	67.91	25.64	84.12	11.18
Return To Management	-30.34	-27.93	-3.71	1.66	7.22	-10.12
Break-even Yield To Cover:						
-Cash Costs (Bushels/Acre)	26.55	30.86	13.02	15.50	9.98	15.73
-Operating Costs (Bushels/Acre)	32.15	36.28	15.40	19.06	12.53	17.73
-Total Production Costs (Bushels/Acre)	59.06	46.53	29.22	23.28	24.70	21.28

TABLE 4

SUMMARY OF COSTS AND RETURNS FOR CROPS SURVEYED - 1981
VERMILION REGION

	OATS		SUMMERFALLOW		MIXED GRAIN
	OWNED	RENTED	OWNED	RENTED	
Number of Farms	30	5	24	7	4
Average Acreage	52.20	48.00	142.71	136.00	87.50
Yield (Bushels/Acre)	58.26	47.46	-	-	38.57
RECEIPTS ($/Acre)	104.43	91.85	2.64	0.12	102.99
	Dollars Per Acre				
Material Cost	27.04	25.30	0.39	-	19.30
Machine Operating	15.25	13.75	12.53	10.99	10.47
Miscellaneous	18.81	37.19	9.37	22.21	11.10
TOTAL CASH COSTS	61.10	76.24	22.29	33.20	40.87
Depreciation	12.27	8.88	14.43	10.69	13.19
TOTAL OPERATING COSTS	73.37	85.12	36.72	43.89	54.06
Interest on Equity	40.37	4.40	55.69	7.75	44.93
Long Term Interest Paid	10.38	7.19	7.81	13.05	3.51
Unpaid Labour	16.53	4.55	18.17	13.97	15.73
TOTAL PRODUCTION COSTS	140.63	101.26	118.39	78.65	118.22
Return Over Operating Costs	31.06	6.73	-34.08	-43.77	48.93
Return to Management	-36.20	-9.41	-115.76	-78.53	-15.23
Break-even Yield to Cover:					
-Cash Costs (Bushels/Acre)	34.13	39.30	-	-	15.31
-Operating Costs (Bushels/Acre)	40.99	43.88	-	-	20.25
-Total Production Costs (Bushels/Acre)	78.56	52.20	-	-	44.28

TABLE 5 SUMMARY OF COSTS AND RETURNS FOR CROPS SURVEYED - 1981
VERMILION REGION

	Greenfeed	Hay		Silage
		Owned	Rented	
Number of Farms	12	32	8	13
Average Acreage	78.33	137.72	106.38	113.08
Yield (Tons/Acre)	1.77	0.89	0.30	5.11
RECEIPTS ($/Acre)	81.78	51.06	17.79	126.23
	- - - - - - - - - - - - Dollars Per Acre - - - - - - - - - - - -			
Material Cost	13.17	10.67	7.51	18.43
Machine Operating	11.78	11.89	6.98	15.21
Miscellaneous	13.42	12.98	10.84	23.16
TOTAL CASH COSTS	38.37	35.52	25.33	56.80
Depreciation	12.19	14.82	7.92	24.09
TOTAL OPERATING COSTS	50.56	50.34	33.25	80.89
Interest on Equity	29.54	42.87	5.90	50.11
Long Term Interest Paid	8.96	9.57	5.83	16.23
Unpaid Labour	25.10	12.14	6.04	12.41
TOTAL PRODUCTION COSTS	114.17	114.92	51.04	159.64
Return Over Operating Costs	31.21	0.71	-15.46	45.34
Return to Management	-32.39	-63.87	-33.25	-33.42
Break-even Yield to Cover:				
-Cash Costs (Tons/Acre)	0.83	0.62	0.42	2.30
-Operating Costs (Tons/Acre)	1.09	0.88	0.55	3.28
-Total Production Costs (Tons/Acre)	2.47	2.01	0.85	6.47

TABLE 6 COSTS AND RETURNS FOR BARLEY PRODUCTION - 1981

OWNED LAND

	Group Average		Your Farm
A. INCOME			
Acreage Per Farm	239.74		
Yield (Bu/Acre)	47.70		
Crop Value	122.01		
Miscellaneous Receipts	4.73		
TOTAL RECEIPTS ($/Acre)	126.75	2.66/Bu	
B. OPERATING COSTS	- - - - - - - Dollars Per Acre - - - - - - -		
Fertilizer	21.26		
Chemicals	6.55		
Seed Purchased	2.22		
Home-Grown Seed	4.66		
Custom Work Hired	2.24		
Crop and Hail Insurance	2.41		
Cash Rent and Crop Share	4.54		
Power Machinery - Fuel	6.80		
Power Machinery - Repairs	6.20		
General Machinery - Repairs	0.92		
Special Machinery - Repairs			
Miscellaneous Equipment	0.13		
Building Repairs	1.36		
Operating Capital Interest Rd.	1.96		
Utilities	1.51		
Other Insurance	0.72		
Property Taxes	1.71		
Accounting and Legal	0.47		
Other	0.39		
Hired Labour	3.51		
Tools Purchased	1.03		
Depreciation - Improvements	1.89		
Depreciation - Machinery	13.02		
TOTAL OPERATING COSTS	85.53	1.79/Bu	
PRODUCTION COSTS			
Operating Costs	85.53		
Int. on Equity - Owned Land	35.60		
Int. on Equity - Improvements	2.38		
Int. on Equity - Machinery	8.44		
Interest on Long Term Debt	10.48		
Operator's Labour	12.75		
Family Labour	1.92		
TOTAL PRODUCTION COSTS	157.09	3.29/Bu	
D. MANAGEMENT FACTORS			
Return Over Operating Costs	41.22	0.86/Bu	
Return To Management	-30.34	-0.64/Bu	
LABOUR USED (HOURS)	2.48		
E. INVESTMENT ITEMS			
Power Machinery	87.13		
Other Machinery	45.06		
Buildings and Improvements	37.41		
Land	649.88		
TOTAL INVESTMENT	885.80		

TABLE 7 COSTS AND RETURNS FOR BARLEY PRODUCTION - 1981
RENTED LAND

		Group Average		Your Farm
A.	INCOME			
	Acreage Per Farm	206.36		
	Yield (Bu/Acre)	36.51		
	Crop Value	94.32		
	Miscellaneous Receipts	8.02		
	TOTAL RECEIPTS ($/Acre)	102.34	2.80/Bu	
B.	OPERATING COSTS	- - - - - - Dollars Per Acre - - - - - -		
	Fertilizer	17.46		
	Chemicals	5.93		
	Seed Purchased	4.41		
	Home-Grown Seed	3.21		
	Custom Work Hired	3.86		
	Crop and Hail Insurance	3.08		
	Cash Rent and Crop Share	24.10		
	Power Machinery - Fuel	6.31		
	Power Machinery - Repairs	3.99		
	General Machinery - Repairs	2.00		
	Special Machinery - Repairs			
	Miscellaneous Equipment			
	Building Repairs	0.60		
	Operating Capital Interest Pd.	4.46		
	Utilities	0.64		
	Other Insurance	1.19		
	Property Taxes	0.37		
	Accounting and Legal	1.06		
	Other	2.96		
	Hired Labour	0.41		
	Tools Purchased	1.43		
	Depreciation - Improvements	13.72		
	Depreciation - Machinery			
	TOTAL OPERATING COSTS	101.57	2.78/Bu	
C.	PRODUCTION COSTS			
	Operating Costs	101.57		
	Int. on Equity - Owned Land	5.81		
	Int. on Equity - Improvements	2.15		
	Int. on Equity - Machinery	5.69		
	Interest on Long Term Debt	7.18		
	Operator's Labour	6.49		
	Family Labour	1.38		
	TOTAL PRODUCTION COSTS	130.27	3.57/Bu	
D.	MANAGEMENT FACTORS			
	Return Over Operating Costs	0.77	0.02/Bu	
	Return To Management	-27.93	-0.77/Bu	
	LABOUR USED (HOURS)	1.72		
E.	INVESTMENT ITEMS			
	Power Machinery	83.30		
	Other Machinery	45.30		
	Buildings and Improvements	130.21		
	Land	447.36		
	TOTAL INVESTMENT	752.87		

TABLE 8 COSTS AND RETRUNS FOR WHEAT PRODUCTION - 1981
OWNED LAND

	Group Average		Your Farm
A. INCOME			
Acreage Per Farm	185.70		
Yield (Bu/Acre)	28.48		
Crop Value	140.92		
Miscellaneous Receipts	6.74		
TOTAL RECEIPTS ($/Acre)	147.66	5.18/Bu	
B. OPERATING COSTS	- - - - - - - Dollars Per Acre - - - - - - -		
Fertilizer	19.57		
Chemicals	6.80		
Seed Purchased	1.45		
Home-Grown Seed	6.57		
Custom Work Hired	2.21		
Crop and Hail Insurance	1.92		
Cash Rent and Crop Share	6.03		
Power Machinery - Fuel	6.73		
Power Machinery - Repairs	5.48		
General Machinery - Repairs	0.53		
Special Machinery - Repairs			
Miscellaneous Equipment	0.12		
Building Repairs	1.23		
Operating Capital Interest Pd.	1.52		
Utilities	1.46		
Other Insurance	0.69		
Property Taxes	1.68		
Accounting and Legal	0.34		
Other	0.28		
Hired Labour	2.01		
Tools Purchased	0.79		
Depreciation - Improvements	1.83		
Depreciation - Machinery	10.51		
TOTAL OPERATING COSTS	79.76	2.80/Bu	
C. PRODUCTION COSTS			
Operating Costs	79.76		
Int. on Equity - Owned Land	33.95		
Int. on Equity - Improvements	2.54		
Int. on Equity - Machinery	8.75		
Interest on Long Term Debt	10.25		
Operator's Labour	13.64		
Family Labour	2.49		
TOTAL PRODUCTION COSTS	151.37	5.31/Bu	
D. MANAGEMENT FACTORS			
Return Over Operating Costs	67.91	2.38/Bu	
Return To Management	-3.71	-0.13/Bu	
LABOUR USED (HOURS)	2.40		
E. INVESTMENT ITEMS			
Power Machinery	82.87		
Other Machinery	37.49		
Buildings and Improvements	33.91		
Land	560.70		
TOTAL INVESTMENT	789.63		

TABLE 9 COSTS AND RETURNS FOR WHEAT PRODUCTION - 1981

RENTED LAND

	Group Average		Your Farm
A. INCOME			
Acreage Per Farm	107.00		_____
Yield (Bu/Acre)	23.58		_____
Crop Value	112.53		_____
Miscellaneous Receipts	21.57		_____
TOTAL RECEIPTS ($/Acre)	134.11	5.69/Bu	_____
B. OPERATING COSTS	- - - - - - - Dollars Per Acre - - - - - - -		
Fertilizer	17.18		_____
Chemicals	8.44		_____
Seed Purchased	2.00		_____
Home-Grown Seed	5.57		_____
Custom Work Hired	1.75		_____
Crop and Hail Insurance	1.43		_____
Cash Rent and Crop Share	30.02		_____
Power Machinery - Fuel	6.58		_____
Power Machinery - Repairs	4.09		_____
General Machinery - Repairs	2.34		_____
Special Machinery - Repairs			_____
Miscellaneous Equipment			_____
Building Repairs	0.13		_____
Operating Capital Interest Pd.	3.93		_____
Utilities	0.38		_____
Other Insurance	1.67		_____
Property Taxes	0.62		_____
Accounting and Legal	0.34		_____
Other	0.14		_____
Hired Labour	1.12		_____
Tools Purchased	0.44		_____
Depreciation - Improvements	1.68		_____
Depreciation - Machinery	18.60		_____
TOTAL OPERATING COSTS	108.47	4.60/Bu	_____
C. PRODUCTION COSTS			
Operating Costs	108.47		_____
Int. on Equity - Owned Land			_____
Int. on Equity - Improvements	2.59		_____
Int. on Equity - Machinery	7.78		_____
Interest on Long Term Debt	3.79		_____
Operator's Labour	7.93		_____
Family Labour	1.89		_____
TOTAL PRODUCTION COSTS	132.44	5.62/Bu	_____
D. MANAGEMENT FACTORS			
Return Over Operating Costs	25.64	1.09/Bu	_____
Return To Management	1.66	0.07/Bu	_____
LABOR USED (HOURS)	1.49		_____
E. INVESTMENT ITEMS			
Power Machinery	100.96		_____
Other Machinery	43.21		_____
Buildings and Improvements	107.45		_____
Land	504.19		_____
TOTAL INVESTMENT	794.82		_____

TABLE 10 COST AND RETURNS FOR CANOLA PRODUCTION - 1981
OWNED LAND

		Group Average		Your Farm
A.	INCOME			
	Acreage Per Farm	149.39		
	Yield (lbs/Acre)	25.84		
	Crop Value	160.18		
	Miscellaneous Receipts	3.13		
	TOTAL RECEIPTS ($/Acre)	163.31	6.32/Bu	
B.	OPERATING COSTS	- - - - - - - Dollars Per Acre - - - - - - -		
	Fertilizer	16.95		
	Chemicals	9.19		
	Seed Purchased	1.83		
	Home-Grown Seed	1.31		
	Custom Work Hired	1.99		
	Crop and Hail Insurance	3.08		
	Cash Rent and Crop Share	6.65		
	Power Machinery - Fuel	6.61		
	Power Machinery - Repairs	4.81		
	General Machinery - Repairs	0.95		
	Special Machinery - Repairs	0.09		
	Miscellaneous Equipment	0.03		
	Building Repairs	0.92		
	Operating Capital Interest Pd.	1.31		
	Utilities	1.34		
	Other Insurance	1.11		
	Property Taxes	1.90		
	Accounting and Legal	0.43		
	Other	0.15		
	Hired Labour	1.94		
	Tools Purchased	0.48		
	Depreciation - Improvements	1.86		
	Depreciation - Machinery	14.24		
	TOTAL OPERATING COSTS	79.19	3.06/Bu	
C.	PRODUCTION COSTS			
	Operating Costs	79.19		
	Int. on Equity - Owned Land	42.65		
	Int. on Equity - Improvements	3.17		
	Int. on Equity - Machinery	10.17		
	Interest on Long Term Debt	7.59		
	Operator's Labour	10.42		
	Family Labour	2.89		
	TOTAL PRODUCTION COSTS	156.09	6.04/Bu	
D.	MANAGEMENT FACTORS			
	Return Over Operating Costs	84.12	3.25/Bu	
	Return To Management	7.22	0.28/Bu	
	LABOUR USED (HOURS)	2.01		
E.	INVESTMENT ITEMS			
	Power Machinery	89.04		
	Other Machinery	45.86		
	Buildings and Improvements	37.63		
	Land	605.63		
	TOTAL INVESTMENT	849.38		

TABLE 11 COSTS AND RETURNS FOR CANOLA PRODUCTION - 1981
RENTED LAND

	Group Average		Your Farm
A. INCOME			
Acreage Per Farm	256.67		
Yield (Tons/Acre)	19.59		
Crop Value	112.70		
Miscellaneous Receipts	4.83		
TOTAL RECEIPTS ($/Acre)	117.53	6.00/Bu	
B. OPERATING COSTS	- - - - - - - Dollars Per Acre - - - - - - -		
Fertilizer	19.07		
Chemicals	6.37		
Seed Purchased	4.69		
Home-Grown Seed	0.23		
Custom Work Hired	4.60		
Crop and Hail Insurance	5.59		
Cash Rent and Crop Share	24.34		
Power Machinery - Fuel	6.86		
Power Machinery - Repairs	5.83		
General Machinery - Repairs	1.59		
Special Machinery - Repairs			
Miscellaneous Equipment	0.61		
Building Repairs	0.50		
Operating Capital Interest Pd.	6.74		
Utilities	0.66		
Other Insurance	0.79		
Property Taxes			
Accounting and Legal	0.83		
Other	1.01		
Hired Labour	3.42		
Tools Purchased	0.66		
Depreciation - Improvements	1.66		
Depreciation - Machinery	10.30		
TOTAL OPERATING COSTS	106.35	5.43/Bu	
C. PRODUCTION COSTS			
Operating Costs	106.35		
Int. on Equity - Owned Land			
Int. on Equity - Improvements	1.86		
Int. on Equity - Machinery	2.43		
Interest on Long Term Debt	10.36		
Operator's Labour	5.72		
Family Labour	0.93		
TOTAL PRODUCTION COSTS	127.65	6.51/Bu	
D. MANAGEMENT FACTORS			
Return Over Operating Costs	11.18	0.57/Bu	
Return To Management	-10.12	-0.52/Bu	
LABOUR USED (HOURS)	1.47		
E. INVESTMENT ITEMS			
Power Machinery	62.28		
Other Machinery	35.29		
Buildings and Improvements	140.73		
Land	554.36		
TOTAL INVESTMENT	846.77		

TABLE 12 COSTS AND RETURNS FOR OATS PRODUCTION - 1981
OWNED LAND

		Group Average		Your Farm
A.	INCOME			
	Acreage Per Farm	52.20		_____
	Yield (Tons/Acre)	58.26		_____
	Crop Value	97.84		_____
	Miscellaneous Receipts	6.58		_____
	TOTAL RECEIPTS ($/Acre)	104.43	1.79/Bu	_____
B.	OPERATING COSTS	- - - - - - - Dollars Per Acre - - - - - - -		
	Fertilizer	15.12		_____
	Chemicals	2.90		_____
	Seed Purchased	6.41		_____
	Home-Grown Seed	2.61		_____
	Custom Work Hired	2.79		_____
	Crop and Hail Insurance	2.65		_____
	Cash Rent and Crop Share	1.88		_____
	Power Machinery - Fuel	7.14		_____
	Power Machinery - Repairs	6.21		_____
	General Machinery - Repairs	1.86		_____
	Special Machinery - Repairs			_____
	Miscellaneous Equipment	0.04		_____
	Building Repairs	1.27		_____
	Operating Capital Interest Pd.	2.97		_____
	Utilities	1.27		_____
	Other Insurance	0.89		_____
	Property Taxes	1.65		_____
	Accounting and Legal	0.28		_____
	Other	0.80		_____
	Hired Labour	1.70		_____
	Tools Purchased	0.66		_____
	Depreciation - Improvements	1.86		_____
	Depreciation - Machinery	10.41		_____
	TOTAL OPERATING COSTS	73.37	1.26/Bu	_____
C.	PRODUCTION COSTS			
	Operating Costs	73.37		_____
	Int. on Equity - Owned Land	31.19		_____
	Int. on Equity - Improvements	2.36		_____
	Int. on Equity - Machinery	6.82		_____
	Interest on Long Term Debt	10.38		_____
	Operator's Labour	13.13		_____
	Family Labour	3.39		_____
	TOTAL PRODUCTION COSTS	140.63	2.41/Bu	_____
D.	MANAGEMENT FACTORS			
	Return Over Operating Costs	31.06	0.53/Bu	_____
	Return To Management	-36.20	-0.62/Bu	_____
	LABOUR USED (HOURS)	2.75		_____
E.	INVESTMENT ITEMS			
	Power Machinery	66.69		_____
	Other Machinery	38.14		_____
	Buildings and Improvements	30.51		_____
	Land	518.03		_____
	TOTAL INVESTMENT	705.76		_____

TABLE 13 COSTS AND RETURNS FOR OATS PRODUCTION - 1981
RENTED LAND

	Group Average		Your Farm
A. INCOME			
Acreage Per Farm	48.00		_____
Yield (Ton/Acre)	47.46		_____
Crop Value	87.93		_____
Miscellaneous Receipts	3.92		_____
TOTAL RECEIPTS ($/Acre)	91.85	1.94/Bu	_____
B. OPERATING COSTS	- - - - - - - Dollars Per Acre - - - - - - -		
Fertilizer	15.86		_____
Chemicals	2.49		_____
Seed Purchased	4.17		_____
Home-Grown Seed	2.78		_____
Custom Work Hired	2.00		_____
Crop and Hail Insurance	0.83		_____
Cash Rent and Crop Share	21.23		_____
Power Machinery - Fuel	6.46		_____
Power Machinery - Repairs	6.00		_____
General Machinery - Repairs	0.72		_____
Special Machinery - Repairs			_____
Miscellaneous Equipment	0.57		_____
Building Repairs	0.22		_____
Operating Capital Interest Pd.	5.42		_____
Utilities	1.03		_____
Other Insurance	0.78		_____
Property Taxes			_____
Accounting and Legal	0.53		_____
Other	0.10		_____
Hired Labour	4.52		_____
Tools Purchased	0.52		_____
Depreciation - Improvements	1.50		_____
Depreciation - Machinery	7.38		_____
TOTAL OPERATING COSTS	85.12	1.79/Bu	_____
C. PRODUCTION COSTS			
Operating Costs	85.12		_____
Int. on Equity - Owned Land			_____
Int. on Equity - Improvements	0.94		_____
Int. on Equity - Machinery	3.46		_____
Interest on Long Term Debt	7.19		_____
Operator's Labour	4.03		_____
Family Labour	0.52		_____
TOTAL PRODUCTION COSTS	101.26	2.13/Bu	_____
D. MANAGEMENT FACTORS			
Return Over Operating Costs	6.73	0.14/Bu	_____
Return To Management	-9.41	-0.20/Bu	_____
LABOUR USED (HOURS)	2.98		_____
E. INVESTMENT ITEMS			
Power Machinery	57.77		_____
Other Machinery	35.35		_____
Buildings and Improvements	76.60		_____
Land	467.62		_____
TOTAL INVESTMENT	676.17		_____

TABLE 14 COSTS AND RETURNS FOR SUMMERFALLOW - 1981
OWNED LAND

	Group Average	Your Farm
A. INCOME		
Acreage Per Farm	142.71	
Miscellaneous Receipts	2.64	
TOTAL RECEIPTS ($/Acre)	2.64	
B. OPERATING COSTS	- - - - - - - Dollars Per Acre - - - - - - -	
Fertilizer		
Chemicals	0.39	
Seed Purchased		
Home-Grown Seed		
Custom Work Hired	0.08	
Crop and Hail Insurance	0.32	
Cash Rent and Crop Share		
Power Machinery - Fuel	7.13	
Power Machinery - Repairs	4.73	
General Machinery - Repairs	0.66	
Special Machinery - Repairs		
Miscellaneous Equipment	0.01	
Building Repairs	0.49	
Operating Capital Interest Pd.	2.47	
Utilities	1.43	
Other Insurance	1.07	
Property Taxes	1.77	
Accounting and Legal	0.33	
Other	0.11	
Hired Labour	0.83	
Tools Purchased	0.48	
Depreciation - Improvements	1.99	
Depreciation - Machinery	12.44	
TOTAL OPERATING COSTS	36.72	
C. PRODUCTION COSTS		
Operating Costs	36.72	
Int. on Equity - Owned Land	42.23	
Int. on Equity - Improvements	3.39	
Int. on Equity - Machinery	10.07	
Interest on Long Term Debt	7.81	
Operator's Labour	13.53	
Family Labour	4.64	
TOTAL PRODUCTION COSTS	118.40	
D. MANAGEMENT FACTORS		
Return Over Operating Costs	-34.08	
Return To Management	-115.76	
LABOUR USED (HOURS)	2.62	
E. INVESTMENT ITEMS		
Power Machinery	82.66	
Other Machinery	48.59	
Buildings and Improvements	41.30	
Land	591.43	
TOTAL INVESTMENT	810.46	

TABLE 15 COSTS AND RETURNS FOR SUMMERFALLOW - 1981
RENTED LAND

	Group Average	Your Farm
A. INCOME		
Acreage Per Farm	136.00	_____
Miscellaneous Receipts	0.12	_____
TOTAL RECEIPTS ($/Acre)	0.12	_____
B. OPERATING COSTS	- - - - - - Dollars Per Acre - - - - - -	
Fertilizer		_____
Chemicals		_____
Seed Purchased		_____
Home-Grown Seed		_____
Custom Work Hired	1.20	_____
Crop and Hail Insurance		_____
Cash Rent and Crop Share	9.12	_____
Power Machinery - Fuel	6.46	_____
Power Machinery - Repairs	3.66	_____
General Machinery - Repairs	0.87	_____
Special Machinery - Repairs		_____
Miscellaneous Equipment		_____
Building Repairs	0.64	_____
Operating Capital Interest Pd.	4.46	_____
Utilities	0.80	_____
Other Insurance	0.59	_____
Property Taxes	0.88	_____
Accounting and Legal	0.29	_____
Other	0.98	_____
Hired Labour	2.86	_____
Tools Purchased	0.40	_____
Depreciation - Improvements	1.68	_____
Depreciation - Machinery	9.01	_____
TOTAL OPERATING COSTS	43.89	_____
C. PRODUCTION COSTS		
Operating Costs	43.89	_____
Int. on Equity - Owned Land	1.28	_____
Int. on Equity - Improvements	2.40	_____
Int. on Equity - Machinery	4.07	_____
Interest on Long Term Debt	13.05	_____
Operator's Labour	13.27	_____
Family Labour	0.70	_____
TOTAL PRODUCTION COSTS	78.65	_____
D. MANAGEMENT FACTORS		
Return Over Operating Costs	-43.77	_____
Return To Management	-78.53	_____
LABOUR USED (HOURS)	2.11	_____
E. INVESTMENT ITEMS		
Power Machinery	80.37	_____
Other Machinery	33.38	_____
Buildings and Improvements	63.25	_____
Land	475.38	_____
TOTAL INVESTMENT	669.51	_____

TABLE 16 COSTS AND RETURNS FOR MIXED GRAIN - 1981

	Group Average		Your Farm
A. INCOME			
Acreage Per Farm	87.50		
Yield (Ton/Acre)	38.57		
Crop Value	94.29		
Miscellaneous Receipts	8.71		
TOTAL RECEIPTS ($/Acre)	102.99	2.67/Bu.	
B. OPERATING COSTS	- - - - - - Dollars Per Acre - - - - - -		
Fertilizer	12.60		
Chemicals			
Seed Purchased	5.46		
Home-Grown Seed	1.24		
Custom Work Hired	1.19		
Crop and Hail Insurance	0.11		
Cash Rent and Crop Share			
Power Machinery - Fuel	6.81		
Power Machinery - Repairs	2.50		
General Machinery - Repairs	1.16		
Special Machinery - Repairs			
Miscellaneous Equipment			
Building Repairs	0.75		
Operating Capital Interest Pd.	3.18		
Utilities	1.25		
Other Insurance	0.56		
Property Taxes	0.87		
Accounting and Legal	0.07		
Other	0.63		
Hired Labour	2.14		
Tools Purchased	0.36		
Depreciation - Improvements	2.10		
Depreciation - Machinery	11.09		
TOTAL OPERATING COSTS	54.06	1.40/Bu	
C. PRODUCTION COSTS			
Operating Costs	54.06		
Int. on Equity - Owned Land	34.50		
Int. on Equity - Improvements	1.87		
Int. on Equity - Machinery	8.56		
Interest on Long Term Debt	3.51		
Operator's Labour	14.99		
Family Labour	0.74		
TOTAL PRODUCTION COSTS	118.22	3.07/Bu	
D. MANAGEMENT FACTORS			
Return Over Operating Costs	48.93	1.27/Bu	
Return To Management	-15.23	-0.39/Bu	
LABOUR USED (HOURS)	2.24		
E. INVESTMENT ITEMS			
Power Machinery	52.59		
Other Machinery	32.01		
Buildings and Improvements	24.23		
Land	522.79		
TOTAL INVESTMENT	641.08		

TABLE 17 COSTS AND RETURNS FOR GREENFEED - 1981

	Group Average		Your Farm
A. INCOME			
Acreage Per Farm	78.33		
Yield (Ton/Acre)	1.77		
Crop Value	79.28		
Miscellaneous Receipts	2.49		
TOTAL RECEIPTS ($/Acre)	81.78	46.28/Ton	
B. OPERATING COSTS	------ Dollars Per Acre ------		
Fertilizer	5.03		
Chemicals	2.66		
Seed Purchased	2.64		
Home-Grown Seed	2.84		
Custom Work Hired	1.42		
Crop and Hail Insurance	0.92		
Cash Rent and Crop Share	0.94		
Power Machinery - Fuel	6.41		
Power Machinery - Repairs	5.30		
General Machinery - Repairs	0.04		
Special Machinery - Repairs			
Miscellaneous Equipment	0.03		
Building Repairs	0.51		
Operating Capital Interest Pd.	3.13		
Utilities	1.10		
Other Insurance	0.74		
Property Taxes	0.95		
Accounting and Legal	0.41		
Other	0.68		
Hired Labour	2.37		
Tools Purchased	0.25		
Depreciation - Improvements	1.04		
Depreciation - Machinery	11.15		
TOTAL OPERATING COSTS	50.56	28.62/Ton	
C. PRODUCTION COSTS			
Operating Costs	50.56		
Int. on Equity - Owned Land	23.13		
Int. on Equity - Improvements	1.28		
Int. on Equity - Machinery	5.13		
Interest on Long Term Debt	8.96		
Operator's Labour	22.14		
Family Labour	2.96		
TOTAL PRODUCTION COSTS	114.17	64.62/Ton	
D. MANAGEMENT FACTORS			
Return Over Operating Costs	31.21	17.67/Ton	
Return To Management	-32.39	-18.33/Ton	
LABOUR USED (HOURS)	4.33		
E. INVESTMENT ITEMS			
Power Machinery	57.93		
Other Machinery	63.80		
Buildings and Improvements	20.99		
Land	421.05		
TOTAL INVESTMENT	579.95		

TABLE 18 COSTS AND RETURNS FOR HAY - 1981
OWNED LAND

	Group Average		Your Farm
A. INCOME			
Acreage Per Farm	137.72		
Yield (Ton/Acre)	0.89		
Crop Value	50.22		
Miscellaneous Receipts	0.84		
TOTAL RECEIPTS ($/Acre)	51.06	57.25/Ton	
B. OPERATING COSTS	- - - - - - Dollars Per Acre - - - - - -		
Fertilizer	9.11		
Chemicals	0.09		
Seed Purchased	1.45		
Home-Grown Seed			
Custom Work Hired	1.09		
Crop and Hail Insurance			
Cash Rent and Crop Share	1.03		
Power Machinery - Fuel	5.92		
Power Machinery - Repairs	5.45		
General Machinery - Repairs	0.48		
Special Machinery - Repairs			
Miscellaneous Equipment	0.04		
Building Repairs	0.92		
Operating Capital Interest Pd.	2.57		
Utilities	1.02		
Other Insurance	0.66		
Property Taxes	1.40		
Accounting and Legal	0.36		
Other	0.77		
Hired Labour	2.48		
Tools Purchased	0.70		
Depreciation - Improvements	1.69		
Depreciation - Machinery	13.13		
TOTAL OPERATING COSTS	50.34	56.45/Ton	
C. PRODUCTION COSTS			
Operating Costs	50.34		
Int. on Equity - Owned Land	34.16		
Int. on Equity - Improvements	2.07		
Int. on Equity - Machinery	6.64		
Interest on Long Term Debt	9.57		
Operator's Labour	10.03		
Family Labour	2.11		
TOTAL PRODUCTION COSTS	114.93	128.88/Ton	
D. MANAGEMENT FACTORS			
Return Over Operating Costs	0.71	0.80/Ton	
Return To Management	-63.87	-71.63/Ton	
LABOUR USED (HOURS)	2.16		
E. INVESTMENT ITEMS			
Power Machinery	56.34		
Other Machinery	70.24		
Buildings and Improvements	26.87		
Land	546.29		
TOTAL INVESTMENT	728.53		

TABLE 19 COSTS AND RETURNS FOR HAY - 1981
RENTED LAND

	Group Average		Your Farm
A. INCOME			
Acreage Per Farm	106.38		
Yield (Ton/Acre)	0.30		
Crop Value	17.07		
Miscellaneous Receipts	0.72		
TOTAL RECEIPTS ($/Acre)	17.79	60.08/Ton	
B. OPERATING COSTS	- - - - - - - Dollars Per Acre - - - - - - -		
Fertilizer	7.14		
Chemicals			
Seed Purchased	0.37		
Home-Grown Seed			
Custom Work Hired			
Crop and Hail Insurance			
Cash Rent and Crop Share	5.64		
Power Machinery - Fuel	3.57		
Power Machinery - Repairs	2.71		
General Machinery - Repairs	0.70		
Special Machinery - Repairs			
Miscellaneous Equipment			
Building Repairs	0.13		
Operating Capital Interest Pd.	1.90		
Utilities	0.35		
Other Insurance	0.47		
Property Taxes			
Accounting and Legal	0.11		
Other	0.35		
Hired Labour	1.65		
Tools Purchased	0.24		
Depreciation - Improvements	0.73		
Depreciation - Machinery	7.19		
TOTAL OPERATING COSTS	33.25	112.29/Ton	
C. PRODUCTION COSTS			
Operating Costs	33.25		
Int. on Equity - Owned Land	1.78		
Int. on Equity - Improvements	0.45		
Int. on Equity - Machinery	3.67		
Interest on Long Term Debt	5.83		
Operator's Labour	5.88		
Family Labour	0.16		
TOTAL PRODUCTION COSTS	51.04	172.36/Ton	
D. MANAGEMENT FACTORS			
Return Over Operating Costs	-15.46	-52.21/Ton	
Return To Management	-33.25	-112.29/Ton	
LABOUR USED (HOURS)	1.66		
E. INVESTMENT ITEMS			
Power Machinery	33.15		
Other Machinery	36.07		
Buildings and Improvements	62.26		
Land	336.86		
TOTAL INVESTMENT	479.65		

TABLE 20 COSTS AND RETURNS FOR SILAGE - 1981

	Group Average		Your Farm
A. INCOME			
Acreage Per Farm	113.08		
Yield (Ton/Acre)	5.11		
Crop Value	124.90		
Miscellaneous Receipts	1.33		
TOTAL RECEIPTS ($/Acre)	126.23	24.68/Ton	
B. OPERATING COSTS	- - - - - - Dollars Per Acre - - - - - -		
Fertilizer	13.99		
Chemicals	0.27		
Seed Purchased	1.79		
Home-Grown Seed	2.38		
Custom Work Hired	2.92		
Crop and Hail Insurance	0.39		
Cash Rent and Crop Share	3.01		
Power Machinery - Fuel	7.28		
Power Machinery - Repairs	6.20		
General Machinery - Repairs	1.73		
Special Machinery - Repairs			
Miscellaneous Equipment			
Building Repairs	0.94		
Operating Capital Interest Pd.	1.66		
Utilities	1.25		
Other Insurance	1.06		
Property Taxes	1.63		
Accounting and Legal	0.88		
Other	0.02		
Hired Labour	8.30		
Tools Purchased	1.12		
Depreciation - Improvements	8.16		
Depreciation - Machinery	15.93		
TOTAL OPERATING COSTS	80.89	15.82/Ton	
C. PRODUCTION COSTS			
Operating Costs	80.89		
Int. on Equity - Owned Land	42.04		
Int. on Equity - Improvements	2.22		
Int. on Equity - Machinery	5.85		
Interest on Long Term Debt	16.23		
Operator's Labour	8.74		
Family Labour	3.67		
TOTAL PRODUCTION COSTS	159.64	31.22/Ton	
D. MANAGEMENT FACTORS			
Return Over Operating Costs	45.34	8.87/Ton	
Return To Management	-33.42	-6.53/Ton	
LABOUR USED (HOURS)	2.98		
E. INVESTMENT ITEMS			
Power Machinery	91.06		
Other Machinery	55.49		
Buildings and Improvements	147.76		
Land	725.42		
TOTAL INVESTMENT	1056.19		

SECTION III

SUMMARY OF COSTS AND RETURNS - LIVESTOCK

The latest census indicates that the second largest source of income for farms in the Vermilion Region was from the sale of cattle. Livestock production on mixed farms is complementary in nature as livestock feed requirements such as hay and grain, aftermath pasture, and marginal grazing are provided by the grain enterprise which otherwise may not be marketable. This section provides detailed information on the average costs and returns for the livestock enterprise analyzed in the Vermilion Region.

The data provided in the livestock summary tables are arranged in six sections. Section A provides information that is related to livestock receipts. Size of the basic herd is indicated for those enterprises which had breeding stock. Also, indicated is the number of head sold which is used as the divisor in reporting the costs and returns data on a per head basis. Inventory adjustment which may be positive or negative is used to reflect the change in value of the livestock on the farm from the beginning to the end of the twelve month study period.

Section B lists the various categories of operating costs. Equipment expenses include the repairs and fuel that were allocated to the livestock enterprises. Repairs and maintenance costs of livestock facilities and wells are indicated on a per head sold basis. These figures were taken from the year-end statement and allocated to the farming enterprises. Hired labour costs represent the amount of cash that was spent for full-time and part-time help. Livestock that was transferred in from another livestock enterprise rather than purchased for cash was valued at market value. Home-grown feed was separated from purchased feed and valued at fair market value. Interest on operating capital was based on the allocation of operating interest actually paid for the twelve month period. Depreciation of fixed assets are also included in the operating cost section.

Section C completes the production cost section by accounting for overhead costs and unpaid labour. Interest on operator's equity was

based on the market value for investment items and a desirable rate of return as indicated by the participant. Interest rates used in the calculation of opportunity costs ranged from 7 per cent to 12 per cent. The main categories of investment for the livestock operations were land (building and feeding site), breeding herd, equipment, and buildings and improvements. Pasture land was not allocated as such to the livestock enterprise. Instead, all land used for grazing purposes was converted to an animal unit month (A.U.M) basis, and then a fair market value per A.U.M. was applied for each specific type of grazing to arrive at the cost. Home-grown feed was separated from the purchased feed and is shown in detail in Section F. Long term interest paid on loans and a valuation of unpaid family labour complete the production cost section.

Section D provides a summary of the costs and returns. The return over operating costs is usually the figure that is referred to when choosing among different farming enterprises. Costs which are not included in the operating cost section may be considered as general farm overhead, and may not always be considered in decision making. The total labour used by a specific enterprise is indicated in this section and is useful for management purposes.

Since many producers are interested for management purposes in knowing the return on investment for different farming enterprises, total investment as used by an enterprise is shown in some detail in Section E. Categories of investment include livestock and supply inventory, equipment, buildings and improvements, and building site.

Many of the livestock producers on study in 1979 had requested that due to the importance of feed costs in livestock operations they wanted to compare their feed inputs and costs to the group average. Section F provides in detail the feeding inputs on a total quantity, total cost, and cost per head sold basis. Home-grown feed was separated from purchased feed. The costs of home-grown and purchased feed are shown in Section B under Operating Costs.

A total of 37 cattle operations were analyzed in 1981 in the Vermilion Region. The three different types of cattle enterprises studied were cow-calf (25 reports), cow-calf finishing (8 reports), and cattle feeding (4 reports). Each participant indicated the number of

cows exposed to breeding, the number of calves weaned and their average weight.

For the 33 farms having a basic herd, an average of 55 cows was reported. Percentage of calves weaned ranged from 71 per cent to 100 per cent with the average being 90 per cent. Weight of weaned calves ranged from 425 pounds to 600 pounds with the average at 517 pounds.

Costs and returns data for the average cow-calf, cattle feeding, and cow-calf finishing enterprises are presented in Tables 15, 16 and 17, respectively. Most cattle operations were unable to generate sufficient returns in 1981 to cover their total production costs. In fact, only the cattle feeding group was able to cover their cash costs. Cow-calf operators were short of covering their cash costs by $138.69 per herd sold, while the cow-calf finishing operators were short $201.04 per head sold. If home-grown feed is excluded from the total cash cost, returns over the adjusted cash costs would have been $156.30, $178.81 and $248.48 per head sold, for the cow-calf, cattle feeding, and cow-calf finishing groups, respectively. As a result, cattle producers received below market prices for their home-grown feed, as well as, took a lower return to their investment and labour.

As mentioned previously, feed cost was the major operating cost item for livestock operations. For example, the cow-calf operator had an operating cost of $632.73 per head sold, 52 per cent of which was attributed to feed. Home-grown feed alone accounted for 46.6 per cent of the operating costs. Cow-calf finish enterprises had an operating cost of $887.07 per head sold, 53.5 per cent of which was feed. Home-grown feed amounted to $449.52 per head sold or 94.7 per cent of the total feed cost. Cattle feeders had an average operating cost of $550.66 per head sold, 32.7 per cent of which was attributed to feed.

The cattle finishing group in 1981 had a return over operating costs of $31.71 per head sold. However, returns were short $4.01 per head sold of covering the investment and labour costs, thus, yielding a negative return to management. The cow-calf and cow-calf finishing groups did not cover their cash costs in 1981 when home-grown feed as considered as a cash cost and were short $397.86 and $444.13 per head

TABLE 21 COSTS AND RETURNS FOR COW-CALF ENTERPRISES - 1981
VERMILION REGION

		Group Average	Your Farm
A.	INCOME		
	Herd Size (Head)	49.17	
	Number of Head Sold	58.42	
	Total Weight Produced (Cwt.)	290.07	
	Total Weight Sold (Cwt.)	372.47	
		- - - - - - - - $ Per Head Sold - - - - - - - -	
	Livestock Sales	436.79	
	Inventory Adjustment	16.34	
	Miscellaneous Receipts	2.96	
	GROSS INCOME	456.09	
B.	OPERATING COSTS		
	Equipment - Fuel and Repairs	45.41	
	Miscellaneous Tools	4.63	
	Building Repairs	7.21	
	Fence and Well Repairs	12.28	
	Operating Capital Interest Pd.	15.45	
	Utilities	8.28	
	Insurance and Licenses	4.23	
	Property Taxes	2.18	
	Accounting and Legal	1.74	
	Hired Labour	10.15	
	Livestock Purchases	128.18	
	Vet. and Medicine	7.89	
	Custom Work Hired	11.74	
	Transporting and Marketing	1.30	
	Bedding and Supplies	0.56	
	Heating Fuel	0.33	
	Other	3.46	
	Home-Grown Feed	294.99	
	Purchased Feed	34.77	
	Depreciation - Improvements	10.11	
	Depreciation - Machinery	27.84	
	TOTAL OPERATING COSTS	632.73	
C.	PRODUCTION COSTS		
	Operating Costs	632.73	
	Int. on Equity - Land, Livestock	47.87	
	Int. on Equity - Improvements	10.35	
	Int. on Equity - Machinery	16.74	
	Int. on Equity - Supplies	1.03	
	Interest on Long Term Debt	30.04	
	Operator's Labour	97.56	
	Family Labour	17.62	
	TOTAL PRODUCTION COSTS	853.94	
D.	MANAGEMENT FACTORS		
	Return Over Operating Costs	-176.64	
	Return To Management	-397.86	
	LABOUR USED (HOURS)	18.65	

TABLE 21 (cont'd)

Group Average - 1981

			Investment Per Head Sold ($)	Your-Farm
E.	INVESTMENT ITEMS			
	Livestock and Supply Inventory		1040.33	
	Equipment		320.59	
	Buildings and Improvements		200.86	
	Land		361.09	
	TOTAL INVESTMENT		1922.87	

		Total Quantity Fed	Total Cost ($)	Cost Per Head Sold ($)	
F.	HOME-GROWN FEED				
	Wheat (Bushels)	16.67	64.17	1.10	
	Oats (Bushels)	655.00	1059.75	18.14	
	Barley (Bushels)	354.17	881.17	15.08	
	Other Grain (Bushels)	84.17	180.83	3.10	
	Tame Hay (Tons)	110.05	6255.96	107.09	
	Native Hay (Tons)	4.17	250.00	4.28	
	Silage (Tons)	29.42	968.12	16.57	
	Greenfeed (Tons)	44.54	2201.04	37.68	
	Straw (Tons)	73.11	1533.08	26.24	
	Native Pasture (Aums)	389.70	2727.90	46.70	
	Tame Pasture (Aums)	102.42	917.17	15.70	
	Aftermath Pasture (Aums)	27.62	193.37	3.31	
	TOTAL COST OF HOME-GROWN FEED		17232.55	294.99	
	PURCHASED FEED				
	Grain (Bushels)	18.38	49.67	0.85	
	Grain (Bushels) Supplement (Tons)	7.03	381.79	6.54	
	Complete Feed (Tons)				
	Hay (Tons)	5.40	310.42	5.31	
	Silage (Tons)	6.25	187.50	3.21	
	Greenfeed (Tons)	7.42	314.58	5.39	
	Straw - Feed (Tons)				
	Straw - Bedding (Tons)	1.25	31.67	0.54	
	Native Pasture (Aums)	88.38	242.83	4.16	
	Tame Pasture (Aums)	53.67	304.42	5.21	
	Aftermath Pasture (Aums)	3.63	25.38	0.43	
	Salt, Molasses, Etc.		182.71	3.13	
	TOTAL COST OF PURCHASED FEED		2030.96	34.77	
	TOTAL FEED COSTS		19263.51	329.76	

TABLE 22 COSTS AND RETURNS FOR CATTLE FEEDING ENTERPRISES - 1981
VERMILION-REGION

	Group Average	Your Farm
A. INCOME		
Number of Head Sold	80.25	
Total Weight Produced (Cwt.)	278.95	
Total Weight Sold (Cwt.)	814.07	
	- - - - - $ Per Head Sold - - - - -	
Livestock Sales	736.12	
Inventory Adjustment	-153.74	
GROSS INCOME	582.38	
B. OPERATING COSTS		
Equipment - Fuel and Repairs	9.12	
Miscellaneous Tools	1.80	
Building Repairs	2.60	
Fence and Well Repairs	5.21	
Operating Capital Interest Pd.	6.83	
Utilities	3.45	
Insurance and Licenses	1.69	
Property Taxes	0.61	
Accounting and Legal	0.73	
Hired Labor	10.65	
Livestock Purchases	285.10	
Vet. and Medicine	9.19	
Custom Work Hired	8.45	
Transporting and Marketing	1.92	
Bedding and Supplies	0.53	
Other	14.30	
Home Grown Feed	138.71	
Purchased Feed	41.36	
Depreciation - Improvements	5.40	
Depreciation - Machinery	2.98	
TOTAL OPERATING COSTS	550.66	
C. PRODUCTION COSTS		
Operating Costs	550.66	
Int. on Equity - Land, Livestock		
Int. on Equity - Improvements	0.83	
Int. on Equity - Machinery	2.42	
Int. on Equity - Supplies	0.19	
Interest on Long Term Debt	13.25	
Operator's Labour	17.46	
Family Labour	1.58	
TOTAL PRODUCTION COSTS	586.39	
D. MANAGEMENT FACTORS		
Return Over Operating Costs	31.71	
Return To Management	-4.01	
LABOR USED (HOURS)	4.21	

TABLE 22 (cont'd)

Group Average - 1981

		Investment Per Cow ($)	Your Farm
E. INVESTMENT ITEMS			
Livestock and Supply Inventory		215.60	
Equipment		60.41	
Buildings and Improvements		94.53	
Land		39.38	
TOTAL INVESTMENT		409.91	

	Total Quantity Fed	Total Cost ($)	Cost Per Head Sold ($)	
F. HOME-GROWN FEED				
Wheat (Bushels)				
Oats (Bushels)	750.00	1200.00	14.95	
Barley (Bushels)	2731.25	6884.37	85.79	
Other Grain (Bushels)				
Tame Hay (Tons)	15.50	930.00	11.59	
Native Hay (Tons)				
Silage (Tons)	6.75	270.00	3.36	
Greenfeed (Tons)	11.00	550.00	6.85	
Straw (Tons)	13.25	205.00	2.55	
Native Pasture (Aums)	140.50	983.50	12.26	
Tame Pasture (Aums)	7.00	63.00	0.79	
Aftermath Pasture (Aums)	6.50	45.50	0.57	
TOTAL COST OF HOME-GROWN FEED		11131.37	138.71	
PURCHASED FEED				
Grain (Bushels)				
Grain (Bushels)				
Supplement (Tons)		200.00	2.49	
Complete Feed (Tons)	24.75	2029.00	25.28	
Hay (Tons)				
Silage (Tons)				
Greenfeed (Tons)				
Straw - Feed (Tons)				
Straw - Bedding (Tons)	0.25	5.00	0.06	
Native Pasture (Aums)				
Tame Pasture (Aums)	90.00	600.00	7.48	
Aftermath Pasture (Aums)				
Salt, Molasses, Etc.		485.25	6.05	
TOTAL COST OF PURCHASED FEED		3319.25	41.36	
TOTAL FEED COSTS		14450.62	180.07	

TABLE 23 COST AND RETURNS FOR COW-CALF FINISH ENTERPRISES - 1981
VERMILION REGION

	Group Average	Your Farm
A. INCOME		
Herd Size (Head)	72.22	_____
Number of Head Sold	91.33	_____
Total Weight Produced (Cwt.)	642.90	_____
Total Weight Sold (Cwt.)	744.71	_____
	- - - - - - - - $ Per Head Sold - - - - - - - -	
Livestock Sales	655.28	_____
Inventory Adjustment	-30.37	_____
Miscellaneous Receipts	10.64	_____
GROSS INCOME	635.55	_____
B. OPERATING COSTS		
Equipment - Fuel and Repairs	58.04	_____
Miscellaneous Tools	0.62	_____
Building Repairs	19.58	_____
Fence and Well Repairs	8.56	_____
Operating Capital Interest Pd.	23.94	_____
Utilities	8.33	_____
Insurance and Licenses	5.02	_____
Property Taxes	2.18	_____
Accounting and Legal	4.93	_____
Hired Labour	22.52	_____
Livestock Purchases	105.98	_____
Vet. and Medicine	31.23	_____
Custom Work Hired	0.95	_____
Transporting and Marketing	15.68	_____
Bedding and Supplies		_____
Heating Fuel		_____
Other	54.35	_____
Home-Grown Feed	449.52	_____
Purchased Feed	25.17	_____
Depreciation - Improvements	9.90	_____
Depreciation - Machinery	40.58	_____
TOTAL OPERATING COSTS	887.07	_____
C. PRODUCTION COSTS		
Operating Costs	887.07	_____
Int. on Equity - Land, Livestock	71.66	_____
Int. on Equity - Improvements	12.92	_____
Int. on Equity - Machinery	7.87	_____
Int. on Equity - Supplies	0.26	_____
Interest on Long Term Debt	22.12	_____
Operator's Labour	71.15	_____
Family Labour	6.63	_____
TOTAL PRODUCTION COSTS	1079.68	_____
D. MANAGEMENT FACTORS		
Return Over Operating Costs	-251.52	_____
Return To Management	-444.13	_____
LABOUR USED (HOURS)	14.45	_____

TABLE 23 (cont'd)

Group Average - 1981

			Investment Per Head Sold	Your Farm
E. INVESTMENT ITEMS				
Livestock and Supply Inventory			1604.40	
Equipment			375.29	
Buildings and Improvements			171.84	
Land			32.85	
TOTAL INVESTMENT			2184.38	
	Total Quantity Fed	Total ($) Cost	Cost Per Head ($) Sold	
F. HOME-GROWN FEED				
Wheat (Bushels)	888.89	2666.67	29.20	
Oats (Bushels)	2493.89	4050.22	44.35	
Barley (Bushels)	2249.44	5543.61	60.70	
Other Grain (Bushels)	44.44	88.89	0.97	
Tame Hay (Tons)	169.39	9329.44	102.15	
Native Hay (Tons)	8.89	355.56	3.89	
Silage (Tons)	315.11	8828.33	96.66	
Greenfeed (Tons)	25.83	1291.67	14.14	
Straw (Tons)	192.62	3950.38	43.25	
Native Pasture (Aums)	184.00	1288.00	14.10	
Tame Pasture (Aums)	311.11	2800.00	30.66	
Aftermath Pasture (Aums)	123.33	863.33	9.45	
TOTAL COST OF HOME-GROWN FEED		41056.09	449.52	
PURCHASED FEED				
Grain (Bushels)				
Grain (Bushels)				
Supplement (Tons)	3.61	1392.11	15.24	
Complete Feed (Tons)				
Hay (Tons)				
Silage (Tons)				
Greenfeed (Tons)				
Straw - Feed (Tons)				
Straw - Bedding (Tons)				
Native Pasture (Aums)	29.27	204.89	2.24	
Tame Pasture (Aums)	38.00	254.44	2.79	
Aftermath Pasture (Aums)				
Salt, Molasses, Etc.		447.33	4.90	
TOTAL COST OF PURCHASED FEED		2298.78	25.17	
TOTAL FEED COSTS		43354.87	474.69	

sold, respectively of covering their total production costs. Labour hours per head sold averaged 18.65, 4.21, and 14.45 for the cow-calf, cattle finishing, and cow-calf finishing groups, respectively.

A total of 14 hog enterprises were analyzed in the Vermilion region in 1981. Eleven (11) of these operations had breeding stock and were able to provide physical data as to the number of farrowings and the number of piglets weaned. Piglets weaned per sow ranged from 11.25 to 19.0 per year (based on 2 litters per sow), with the average being 14.3. The number of sows on the average farm was 92, with the range being between 8 and 250 sows per farm.

Three types of hog enterprises were analyzed in 1981 and included farrow to finish (7 reports), farrow to weaning (4 reports), and hog finishing (3 reports). Due to the limited number of hog producers participating in this analysis, the reader is reminded not to draw any firm conclusions from the costs and returns data presented on hog production. The farrow to finish operations in Table 24 showed a positive return to management of $2.06 per hog sold. That is, total production costs were $118.22 while returns were $120.28 per head sold. Approximately 70 per cent of the operating costs represented feed, 91 per cent of which was purchased rather than home-grown. On the average, 14.2 piglets were weaned per sow for farrow-finish operations. Labour hours per hog sold was 1.96 for the group. Approximately 1,362 market hogs were sold by the average farrow-finish operation and had a return over cash costs of $35,030.64 or $25.72 per hog sold. This amount also represents the operator's return to labour, management and investment.

Table 25 presents the group average costs and returns data for the 4 farrow to wean enterprises surveyed. The average number of sows on these 4 farms was 107 from which 1,396 weaner pigs were sold. Pigs weaned per sow averaged 14.6 for this group and this was 2.8 per cent above the average reported for the farrow-finish operations. The average farrow-wean operation in 1981 failed to generate enough returns to cover its cash costs. Receipts of $43.05 per weaner sold were, short $8.24 of covering the cash costs and $14.21 of covering the operating costs. With total production costs averaging $75.27 per weaner sold, returns were short by $32.22, consequently giving producers a negative return to their management and investment. Feed costs, 94 per cent of which was pur-

chased as opposed to home-grown accounted for 56 per cent of the operating costs. Labour hours per weaner sold averaged 1.36.

The average hog finishing operation on study in 1981 had hog sales of 1,388 (Table 26), with returns averaging $138.33 per head sold. With a total production costs of $128.33 per hog sold, producers had a return over operating costs of $29.67 and a return to management (profit) of $10.00 per head sold. Feed costs per head sold was $46.75 as compared to $68.82 per head sold, for the farrow-finish operation. Total operating costs for the finishing operation was a little higher at $108.66 per head sold, as opposed to $98.06 per head sold for the farrow-finish operation. Cost of the weaner pig ($45.94 per head sold basis), in addition to feed, accounted for 85.3 per cent of the operating costs for the finishing operation. Cost of all labour used in the finishing operation was $6.56 per head sold versus $17.01 per head sold for the farrow-finish group. Although the hog finishing group had higher production costs relative to the farrow-finish group ($128.33 versus $118.22 per head sold), their additional return of $18.05 per hog resulted in a higher profit margin of $7.95 per hog sold.

TABLE 24 COSTS AND RETURNS FOR HOG FARROW-FINISH ENTERPRISES - 1981
VERMILION REGION

	Group Averge	Your Farm
A. INCOME		
Herd Size (Head)	92.29	
Number of Head Sold	1362.14	
Total Weight Produced (Cwt.)	2556.14	
Total Weight Sold (Cwt.)	2549.92	
Livestock Sales	121.13	
Inventory Adjustment	-0.86	
Miscellaneous Receipts		
GROSS INCOME	120.28	
B. OPERATING COSTS	- - - - - - $ Per Head Sold - - - - - -	
Equipment - Fuel and Repairs	2.71	
Miscellaneous Tools	0.19	
Building Repairs	2.14	
Fence and Well Repairs	0.17	
Operating Capital Interest Pd.	3.56	
Utilities	3.45	
Insurance and Licenses	0.65	
Property Taxes	0.17	
Accounting and Legal	0.23	
Hired Labour	2.64	
Livestock Purchases	4.02	
Vet. and Medicine	1.31	
Custom Work Hired		
Transporting and Marketing	2.28	
Bedding and Supplies		
Heating Fuel	1.66	
Other	0.59	
Home-Grown Feed	5.88	
Purchased Feed	62.94	
Depreciation - Improvements	2.36	
Depreciation - Machinery	1.14	
TOTAL OPERATING COSTS	98.06	
C. PRODUCTION COSTS		
Operating Costs	98.06	
Int. on Equity - Land, Livestock	1.49	
Int. on Equity - Improvements	1.03	
Int. on Equity - Machinery	0.24	
Int. on Supplies	0.02	
Interest on Long Term Debt	3.01	
Operator's Labour	10.57	
Family Labour	3.80	
TOTAL PRODUCTION COSTS	118.22	
D. MANAGEMENT FACTORS		
Return Over Operating Costs	22.21	
Return To Management	2.05	
LABOUR USED (HOURS)	1.96	

TABLE 24 (cont'd)

Group Average - 1981

			Investment Per Head Sold ($)	Your Farm
E. INVESTMENT ITEMS				
Livestock and Supply Inventory			53.15	
Equipment			15.54	
Buildings and Improvements			79.09	
Land			3.62	
TOTAL INVESTMENT			151.40	
	Total Quantity Fed	Total Cost ($)	Cost Per Head Sold ($)	
F. HOME-GROWN FEED				
Wheat (Bushels)	552.86	2617.86	1.92	
Oats (Bushels)	464.29	742.86	0.55	
Barley (Bushels)	1771.43	4642.86	3.41	
Other Grain (Bushels)				
Tame Hay (Tons)				
Native Hay (Tons)				
Silage (Tons)				
Greenfeed (Tons)				
Straw (Tons)				
Native Pasture (Aums)				
Tame Pasture (Aums)				
Aftermath Pasture (Aums)				
TOTAL COST OF HOME-GROWN FEED		8003.57	5.88	
PURCHASED FEED				
Grain (Bushels)	9087.00	24315.14	17.85	
Grain (Bushels)				
Supplement (Tons)	414.84	22649.00	16.63	
Complete Feed (Tons)	479.54	38741.29	28.44	
Hay (Tons)				
Silage (Tons)				
Greenfeed (Tons)				
Straw - Feed (Tons)				
Straw - Bedding (Tons)				
Native Pasture (Aums)				
Tame Pasture (Aums)				
Aftermath Pasture (Aums)				
Salt, Molasses, Etc.		26.43	0.02	
TOTAL COST OF PURCHASED FEED		85731.81	62.94	
TOTAL FEED COSTS		93735.37	68.81	

TABLE 25 COSTS AND RETURNS FOR HOG FARROW-WEANING ENTERPRISES - 1981
VERMILION REGION

	Group Average	Your Farm
A. INCOME		
Herd Size (Head)	107.00	
Number of Head Sold	1396.00	
Total Weight Produced (Cwt.)	499.42	
Total Weight Sold (Cwt.)	531.14	
	- - - - - - - $ Per Head Sold - - - - - - -	
Livestock Sales	41.81	
Inventory Adjustment	1.23	
Miscellaneous Receipts		
GROSS INCOME	43.05	
B. OPERATING COSTS		
Equipment - Fuel and Repairs	1.71	
Miscellaneous Tools	0.15	
Building Repairs	3.65	
Fence and Well Repairs		
Operating Capital Interest Pd.	0.28	
Utilities	2.74	
Insurance and Licenses	0.40	
Property Taxes	0.05	
Accounting and Legal	0.04	
Hired Labour	3.33	
Livestock Purchases	2.92	
Vet. and Medicine	1.33	
Custom Work Hired	0.33	
Transporting and Marketing		
Bedding and Supplies	0.27	
Heating Fuel	1.06	
Other	1.05	
Home-Grown Feed	1.98	
Purchased Feed	29.99	
Depreciation - Improvements	5.53	
Depreciation - Machinery	0.43	
TOTAL OPERATING COSTS	57.25	
C. PRODUCTION COSTS		
Operating Costs	57.25	
Int. on Equity - Land, Livestock	1.14	
Int. on Equity- Improvements	5.85	
Int. on Equity - Machinery	0.39	
Int. on Equity - Supplies	0.01	
Interest on Long Term Debt	3.75	
Operator's Labour	6.79	
Family Labour	0.07	
TOTAL PRODUCTION COSTS	75.27	
D. MANAGEMENT FACTORS		
Return Over Operating Costs	-14.21	
Return To Management	-32.22	
LABOUR USED (HOURS)	1.36	

TABLE 25 (cont'd)

	Group Average - 1981			
			Investment Per Head Sold ($)	Your Farm
E. INVESTMENT ITEMS				
Livestock and Supply Inventory			18.16	_____
Equipment			5.04	_____
Buildings and Improvements			104.47	_____
Land			1.84	_____
TOTAL INVESTMENT			129.50	_____
	Total Quantity Fed	Total Cost ($)	Cost Per Head Sold ($)	
F. HOME-GROWN FEED				
Wheat (Bushels)				_____
Oats (Bushels)				_____
Barley (Bushels)	1140.50	2761.25	1.98	_____
Other Grain (Bushels)				_____
Tame Hay (Tons)				_____
Native Hay (Tons)				_____
Silage (Tons)				_____
Greenfeed (Tons)				_____
Straw (Tons)				_____
Native Pasture (Aums)				_____
Tame Pasture (Aums)				_____
Aftermath Pasture (Aums)				_____
TOTAL COST OF HOME-GROWN FEED		2761.25	1.98	_____
PURCHASED FEED				
Grain (Bushels)	3534.80	8483.50	6.08	
Grain (Bushels)	1611.60	3900.00	2.79	_____
Supplement (Tons)	38.30	8438.75	6.04	_____
Complete Feed (Tons)	26.30	2104.75	15.08	_____
Hay (Tons)				_____
Silage (Tons)				_____
Greenfeed (Tons)				_____
Straw - Feed (Tons)				_____
Straw - Bedding (Tons)				_____
Native Pasture (Aums)				_____
Tame Pasture (Aums)				_____
Aftermath Pasture (Aums)				_____
Salt, Molasses, Etc.				_____
TOTAL COST OF PURCHASED FEED		41868.00	29.99	_____
TOTAL FEED COSTS		44629.25	31.97	_____

TABLE 26 COSTS AND RETURNS FOR HOG FINISHING ENTERPRISES - 1981
VERMILION REGION

	Group Average	Your Farm
A. INCOME		
Herd Size (Head)		
Number of Head Sold	1387.67	
Total Weight Produced (Cwt.)	1916.01	
Total Weight Sold (Cwt.)	2487.44	
	- - - - - - - $ Per Head Sold - - - - - - -	
Livestock Sales	135.44	
Inventory Adjustment	2.89	
Miscellaneous Receipts		
GROSS INCOME	138.33	
B. OPERATING COSTS		
Equipment - Fuel and Repairs	3.24	
Miscellaneous Tools	0.13	
Building Repairs	1.35	
Fence and Well Repairs		
Operating Capital Interest Pd.	0.13	
Utilities	0.88	
Insurance and Licenses	1.32	
Property Taxes	0.01	
Accounting and Legal	0.09	
Hired Labour	0.11	
Livestock Purchases	45.94	
Vet. and Medicine	0.75	
Custom Work Hired		
Transporting and Marketing		
Bedding and Supplies		
Heating Fuel	0.32	
Other		
Home-Grown Feed	25.28	
Purchased Feed	21.47	
Depreciation - Improvements	5.26	
Depreciation - Machinery	2.40	
TOTAL OPERATING COSTS	108.66	
C. PRODUCTION COSTS		
Operating Costs	108.66	
Int. on Equity - Land, Livestock	1.84	
Int. on Equity - Improvements	6.16	
Int. on Equity - Machinery	1.97	
Int. on Equity - Supplies	0.01	
Interest on Long Term Debt	3.25	
Operator's Labour	4.34	
Family Labour	2.11	
TOTAL PRODUCTION COSTS	128.33	
D. MANAGEMENT FACTORS		
Return Over Operating Costs	29.67	
Return To Management	10.00	
LABOUR USED (HOURS)	1.20	

TABLE 26 (cont'd)

	Group Average - 1981			
			Investment Per Head Sold ($)	Your Farm
E. INVESTMENT ITEMS				
Livestock and Supply Inventory			42.69	
Equipment			26.78	
Buildings and Improvements			79.09	
Land			3.60	
TOTAL INVESTMENT			152.16	
	Total Quantity Fed	Total Cost ($)	Cost Per Head Sold ($)	
F. HOME-GROWN FEED				
Wheat (Bushels)				
Oats (Bushels)				
Barley (Bushels)	14419.66	35073.85	25.28	
Other Grain (Bushels)				
Tame Hay (Tons)				
Native Hay (Tons)				
Silage (Tons)				
Greenfeed (Tons)				
Straw (Tons)				
Native Pasture (Aums)				
Tame Pasture (Aums)				
Aftermath Pasture (Aums)				
TOTAL COST OF HOME-GROWN FEED		35073.85	25.28	
PURCHASED FEED				
Grain (Bushels)	4000.00	10023.33	7.22	
Grain (Bushels)				
Supplement (Tons)	45.90	17008.00	12.26	
Complete Feed (Tons)	34.46	2757.00	1.99	
Hay (Tons)				
Silage (Tons)				
Greenfeed (Tons)				
Straw - Feed (Tons)				
Straw - Bedding (Tons)				
Native Pasture (Aums)				
Tame Pasture (Aums)				
Aftermath Pasture (Aums)				
Salt, Molasses, Etc.				
TOTAL COST OF PURCHASED FEED		29788.33	21.47	
TOTAL FEED COSTS		64862.19	46.74	

SECTION IV

SUMMARY OF COSTS AND RETURNS - MILK PRODUCTION

This section provides detailed information on the average costs and returns for fluid milk production in the Vermilion region. A total of 7 records relating to the 1981 production year were obtained from dairy farms in the Vermilion Region. The number of cows on these farms ranged from 16 to 105 with the average being 51. The costs and returns data presented in this section are weighted on the basis of herd size. For this report, a total of 357 milking cows were considered on the 7 farms studied.

Milk production is the main efficiency measure used in comparing the performance of dairy herds. In 1981, the annual milk production per cow for study participants ranged from 39.77 hectolitres to 68.50 hectolitres. The average study participant reported 52.04 hectolitres per cow. However, the average milk production for milk producers involved in the 1981 Provincial Fluid Milk Study was much higher at 55.37 hectolitres per cow (Refer to report "Economics of Milk Production in Alberta - 1981 Agdex no. 821). Another efficiency measure used is feed cost per hectolitre of milk produced. Feed costs per hectolitre of milk in 1981 for the Vermilion Region was $14.16 compared to the provincial average of $14.87.

The data provided in Table 27 are divided into six sections. Section A provides detailed information that is related to milk and livestock sales. Net livestock sales are generally the dollar difference between cattle sold and cattle bought and as such, can be either positive or negative. Inventory adjustment is used to reflect any change in the value of livestock on the farm from the beginning to the end of the twelve month study period. Receipts from milk sales and subsidy were $38.09 per hectolitre while receipts from livestock sales and inventory adjustment were $4.57 per hectolitre. This compares with the 1981 provincial average return of $41.38 per hectolitre for milk sales, and $3.39 per hectolitre for livestock sales and inventory adjustment.

Section B lists the various categories of operating costs. Equipment expenses include fuel and repairs that were allocated to the milking enterprise. Repairs and maintenance of livestock facilities and wells are indicated on a per cow and per hectolitre of milk basis. Hired labour represents the amount of cash that was spent for full-time and part-time help. Home-grown feed which represented 63.4 per cent of the total feed cost valued at fair market value, was separated from the purchased feed. Interest on operating capital was based on the allocation of operating interest paid for the twelve month period. Depreciation of fixed assets is included in the operating cost. Operating costs per hectolitre of milk in 1981 was $28.79, of which $14.16 (49 per cent) was feed.

Section C completes the production cost section by accounting for overhead costs and unpaid labour. Interest on operator's equity was based on the market value for investment items and a desired rate of return as indicated by the participant. Interest rates used in the calculation of opportunity costs ranged from 7 per cent to 12 per cent. Also included in this section are the long term interest paid on loans for fixed assets and a valuation of unpaid family labour. The total interest costs in 1981 was $8.03 per hectolitre while the value of unpaid labour was $5.24 per hectolitre. As a result, total production costs in 1981 were $42.06 per hectolitre compared to the 1981 provincial cost of $38.69 per hectolitre.

Section D provides a summary of the 1981 costs and returns. Return over operating costs is usually the figure that is referred to when choosing among different farming alternatives. Costs which are not included in the operating cost section may be considered as general farm overhead and may not always be considered in decision making. Return over operating costs for milk production was $13.87 per hectolitre while returns over total production costs were $0.60 per hectolitre. Total labour hours per cow is also shown in this section. The study results indicated that the average labour requirement per milk cow in 1981 was 64.17 hours versus 77.60 hours per cow reported by the dairy producers involved in the Provincial Fluid Milk study. As to the significance of hired labour, 42.2 per cent of the total labour cost was hired as opposed to the provincial average of 29 per cent.

Total investment as used by the fluid milk enterprise is indicated in Section E and is useful for management purposes. Investment per cow in 1981 (includes the cow herd, buildings, building site, and equipment) was $4,496.23 and was 14.4 per cent higher than the provincial average of $3,930 per cow. The calculated rate of return on investment in 1981 was 9.99 per cent.

Section F provides in detail the feed inputs by total quantity, total cost, and cost per hectolitre. This kind of information is most useful to livestock and fluid milk producers who are interested in comparing their feed inputs and costs to those of the group. Home-grown feed in 1981 represented 63.4 per cent of the total feed cost.

TABLE 27 COSTS AND RETURNS FOR DAIRY - FLUID MILK ENTERPRISES - 1981
VERMILION REGION

	Group Average	Your Farm
A. INCOME		
Number of Cows	51.14	
Milk Production (hl)	2661.56	
Milk Production (hl per Cow)	52.04	
	- - - - - - - - $ Per hl of Milk - - - - -	
Milk Sales	35.22	
Subsidy	2.87	
Net Livestock Sales	-0.97	
Inventory Adjustment	5.54	
GROSS INCOME	42.66	
B. OPERATING COSTS	- - - - - - - - $ Per hl of Milk - - - - -	
Equipment - Fuel and Repairs	0.56	
Miscellaneous Tools	0.21	
Building Repairs	0.16	
Fence and Well Repairs	0.10	
Operating Capital Interest Pd.	0.16	
Utilities	0.78	
Insurance and Licenses	0.37	
Property Taxes	0.02	
Accounting and Legal	0.22	
Hired Labour	3.64	
Vet. and Medicine	0.76	
Custom Work Hired	0.66	
Transporting and Marketing	3.06	
Bedding and Supplies	0.28	
Other	0.40	
Home-Grown Feed	8.98	
Purchased Feed	5.18	
Depreciation - Improvements	1.61	
Depreciation - Machinery	1.65	
TOTAL OPERATING COSTS	28.79	
C. PRODUCTION COSTS		
Operating Costs	28.79	
Int. on Equity - Land, Livestock	1.80	
Int. on Equity - Improvements	1.26	
Int. on Equity - Machinery	0.67	
Int. on Equity - Supply Quota	0.32	
Interest on Long Term Debt	3.98	
Operator's Labour	3.55	
Family Labour	1.69	
TOTAL PRODUCTION COSTS	42.06	
D. MANAGEMENT FACTORS		
Return Over Operating Costs	13.87	
Return To Management	0.60	
LABOUR USED (HOURS PER COW)	64.17	

TABLE 27 (cont'd)

Group Average - 1981

	Investment Per Cow ($)	Your Farm
E. INVESTMENT ITEMS		
Livestock and Supply Inventory	2190.54	
Equipment	670.53	
Buildings and Improvements	1499.96	
Land	135.20	
TOTAL INVESTMENT	4496.23	

	Total Quantity Fed	Total Cost ($)	Cost Per Head Sold ($)	Your Farm
F. HOME-GROWN FEED				
Wheat (Bushels)				
Oats (Bushels)	388.57	621.71	0.23	
Barley (Bushels)	3870.71	9963.20	3.74	
Other Grain (Bushels)	792.86	1585.71	0.60	
Tame Hay (Tons)	109.29	5900.00	2.22	
Native Hay (Tons)				
Silage (Tons)	13.37	401.00	1.51	
Greenfeed (Tons)	1.43	64.29	0.02	
Straw (Tons)	37.86	725.71	0.27	
Native Pasture (Aums)	46.86	328.00	0.12	
Tame Pasture (Aums)	74.43	608.14	0.23	
Aftermath Pasture (Aums)	14.07	98.50	0.04	
TOTAL COST OF HOME-GROWN FEED		23905.27	8.98	
PURCHASED FEED				
Grain (Bushels)	241.00	385.71	0.14	
Grain (Bushels)				
Supplement (Tons)	32.60	9631.86	3.62	
Complete Feed (Tons)	5.71	1190.00	0.45	
Hay (Tons)	33.00	2250.00	0.85	
Silage (Tons)				
Greenfeed (Tons)				
Straw - Feed (Tons)				
Straw - Bedding (Tons)	2.29	45.71	0.02	
Native Pasture (Aums)				
Tame Pasture (Aums)	90.00	600.00	7.48	
Aftermath Pasture (Aums)				
Salt, Molasses, Etc.		275.71	0.10	
TOTAL COST OF PURCHASED FEED		13779.00	5.18	
TOTAL FEED COSTS		37684.27	14.16	

SECTION V

SUMMARY OF COSTS AND RETURNS BY SIZE OF OPERATION

A general characteristic of agricultural enterprises is that the production unit becomes more efficient as the scale of the operation increases. However, beyond a certain size diseconomies of scale can occur due to the limitations of management, capital, equipment, etc. As the size of an operation increases, cost savings can be expected in areas such as fixed overhead and operating costs. For example, machinery ownership costs will be spread over a wider base as the number of acres increase. Operating cost savings can be experienced from the use of larger equipment, bulk buying and more efficient use of labour and management. Therefore, production costs per acre will be lowered as the number of acres increase, resulting in a higher return to management.

To determine whether size of operation had any effect on costs and returns for the main crops namely, wheat, barley, and canola, the study participants were divided into two size groups. The size groups analysed were for farms having less than 1,000 seeded acres and those having 1,000 seeded acres or more.

Wheat Production Costs By Size Of Operation

Costs and returns for wheat production are presented in Table 28 for the two size groups. The farms with less than 1,000 seeded acres had a yield advantage over the larger size farms by approximately 2 bushels per acre and also reported a higher return per bushel.

Farms having less than 1,000 acres had total operating costs of $81.57 per acre as compared to $83.28 for farms having 1,000 acres and more. However, they reported higher machinery operating costs per acre ($14.48 versus $11.24), as well as, depreciation costs ($15.44 versus $11.02 per acre). The larger farms as expected had higher costs for cash rent/crop share, reflecting a greater proportion of rented land in their operations. Total operating costs on a per bushel basis, was $2.81 for

TABLE 28: SUMMARY OF COSTS AND RETURNS FOR WHEAT PRODUCTION BY SIZE OF FARM - 1981

	LESS THAN 1,000 ACRES		1,000 ACRES AND OVER	
A. Number of Farms	26		13	
Acreage Per Farm	122.60		275.54	
	- - - - - - - - - $ Per Acre - - - - - - - - -			
Yield (Bu. Per Acre)	29.06		27.09	
Total Value	142.50		134.43	
Miscellaneous Receipts	13.30		3.56	
TOTAL RECEIPTS	155.81	5.36/Bu	137.98	5.09/Bu
B. OPERATING COSTS				
Fertilizer	17.95		20.59	
Chemicals	7.38		6.58	
Seed	8.41		7.59	
Cash Rent & Crop Share	4.33		11.84	
Mach. Operating Costs	14.48		11.24	
Hired Labour	0.99		2.00	
Miscellaneous	10.77		10.72	
Interest on Operating Capital	1.82		1.70	
Depreciation	15.44		11.02	
TOTAL OPERATING COSTS	81.57	2.81/Bu	83.28	3.07/Bu
C. PRODUCTION COSTS				
Operating Costs	81.57		83.28	
Int. on Equity-Land	32.98		28.73	
Int. on Equity-Bldg. and Machinery	12.48		10.16	
Long Term Int. Paid	9.23		9.99	
Unpaid Labour	20.53		11.09	
TOTAL PRODUCTION COSTS	156.79	5.39/Bu	143.15	5.28/Bu
D. MANAGEMENT FACTORS				
Return Over Operating Costs	74.23	2.55/Bu	54.70	2.02/Bu
Return to Management	-0.99	-0.03/Bu	-5.17	-0.19/Bu
Land Investment	596.74		518.49	
Building and Machinery Investment	176.40		152.00	
Labour Hours Used (per acre)	3.11		1.61	

the smaller farms (less than 1000 acres), and $3.07 for the larger farms. Total production costs on the smaller farms was $156.79 per acre ($5.39 per bushel), while the larger farms had total production costs of $143.15 per acre ($5.28 per bushel). Higher interest costs on land and building investment along with higher labour costs accounted for this difference.

Labour hours used per acre was higher on the smaller farms at 3.11 versus 1.61 for the larger farms. Total building, equipment, and land investment for the smaller farm totalled $773.14 per acre which was 13.3 per cent higher than that reported for the larger farms. Returns over operating costs were $2.55 and $2.02 per bushel for the smaller and larger farms, respectively. For farms having less than 1,000 seeded acres, an additional return of $0.99 per acre ($0.03 per bushel) was required to cover their total production costs. The larger farms with over 1,000 acres seeded required an additional $5.17 per acre ($0.19 per bushel) to cover all production costs.

Barley Production Costs By Size Of Operation

Presented in Table 29, by size of operation are the costs and returns for barley production. As was the case with wheat production, smaller farms (less than 1,000 acres) experienced lower cash rent/crop share and material costs but higher fuel, repair, and depreciation costs. Total operating costs for the larger farms was $89.59 per acre or $1.93 per bushel. For the smaller farms this value was $88.40 per acre or $1.99 per bushel.

Larger farms reported an average yield of 46.45 bushels per acre, which was approximately 2 bushels more per acre than that reported for smaller farms. However, due to a lower price per bushel received, larger farms experienced a lower return per acre.

Total production costs for barley on farms with less than 1,000 acres were approximately 20 per cent higher than that for farms with 1,000 and over seeded acres. Once again, interest costs associated with the higher investment per acre and higher labour cost accounted for this difference. Production costs for the smaller farms were $163.08 per acre

TABLE 29: SUMMARY OF COSTS AND RETURNS FOR BARLEY PRODUCTION BY SIZE OF FARM - 1981

	LESS THAN 1,000 ACRES		1,000 ACRES AND OVER	
A. Number of Farms	41		14	
Acreage Per Farm	169.98		379.93	
	- - - - - - - - - $ Per Acre - - - - - - - - -			
Yield (Bu. Per Acre)	44.52		46.45	
Total Value	114.98		118.22	
Miscellaneous Receipts	8.05		2.65	
TOTAL RECEIPTS	123.02	2.76/Bu	120.87	2.60/Bu
B. OPERATING COSTS				
Fertilizer	19.87		20.01	
Chemicals	6.41		6.77	
Seed	6.73		7.31	
Cash Rent & Crop Share	5.92		13.85	
Mach. Operating Costs	14.92		11.60	
Hired Labour	2.76		3.04	
Miscellaneous	11.01		13.93	
Interest on Operating Capital	1.92		2.93	
Depreciation	18.86		10.15	
TOTAL OPERATING COSTS	88.40	1.99/Bu	89.59	1.93/Bu
C. PRODUCTION COSTS				
Operating Costs	88.40		89.59	
Int. on Equity-Land	36.13		18.64	
Int. on Equity-Bldg. and Machinery	13.04		7.21	
Long Term Int. Paid	8.87		11.29	
Unpaid Labour	16.65		8.61	
TOTAL PRODUCTION COSTS	163.08	3.66/Bu	135.34	2.91/Bu
D. MANAGEMENT FACTORS				
Return Over Operating Costs	34.63	0.78/Bu	31.29	0.67/Bu
Return to Management	-40.06	-0.90/Bu	-14.47	-0.37/Bu
Land Investment	705.34		461.61	
Building and Machinery Investment	198.90		186.27	
Labour Hours Used (per acre)	2.88		1.44	

($3.66 per bushel) and $135.34 per acre ($2.91 per bushel) for the larger farms.

Barley returns in 1981 were insufficient in covering total production costs. The smaller farms were short $40.06 per acre or $0.90 per bushel, while the larger farms were short $14.47 per acre or $0.31 per bushel.

Canola Production Costs By Size Of Operation

Shown in Table 30 are the costs and returns data for canola production costs by size of operation. Canola yields were reported to be 28 per cent higher on the larger size farms in 1981 at 25.38 bushels per acre. Consequently, returns per acre were substantially higher at $156.00 per acre compared to $128.44 per acre for the group having less than 1,000 seeded acres.

Smaller farms (less than 1,000 acres) had an unusual cost structure in comparison to the larger farms. They had a higher proportion of rented land in their operation, a higher cash rent/crop share cost and a lower interest cost on land relative to the larger farms. This, together with their higher machine operating costs, material costs and depreciation resulted in a total operating cost of $99.48 per acre or $5.03 per bushel. In comparison, larger farms had total operating costs of $84.31 per acre or $3.32 per bushel.

Total production costs for canola on the smaller farms amounted to $146.53 or $7.41 per bushel produced. As such, their returns were short by $18.09 per acre ($9.91 per bushel), in covering all production costs. Investment on these farms amounted to $967.48 per acre and had a total labour requirement of 1.85 hours per acre.

Farms with 1,000 and over seeded acres had total production costs of $139.34 per acre or $5.49 per bushel. Returns were in excess of production costs by $16.66 per acre or $0.66 per bushel. With an investment of $654.74 per acre, these farms had a calculated percentage return on investment of 9.66 per cent. In addition, their labour requirement was 1.43 hours per acre.

TABLE 30: SUMMARY OF COSTS AND RETURNS FOR CANOLA PRODUCTION BY SIZE OF FARM - 1981

	LESS THAN 1,000 ACRES		1,000 ACRES AND OVER	
A. Number of Farms	14		11	
Acreage Per Farm	84.71		264.27	
	- - - - - - - - - $ Per Acre - - - - - - - - -			
Yield (Bu. Per Acre)	19.78		25.38	
Total Value	118.67		153.62	
Miscellaneous Receipts	9.77		2.39	
TOTAL RECEIPTS	128.44	6.49/Bu	156.00	6.15/Bu
B. OPERATING COSTS				
Fertilizer	23.07		14.82	
Chemicals	5.42		8.57	
Seed	4.33		3.92	
Cash Rent & Crop Share	15.23		13.10	
Mach. Operating Costs	16.69		11.63	
Hired Labour	1.56		2.79	
Miscellaneous	9.38		13.58	
Interest on Operating Capital	8.09		2.82	
Depreciation	15.71		13.08	
TOTAL OPERATING COSTS	99.48	5.03/Bu	84.31	3.32/Bu
C. PRODUCTION COSTS				
Operating Costs	99.48		84.31	
Int. on Equity-Land	25.36		27.99	
Int. on Equity-Bldg. and Machinery	8.00		9.77	
Long Term Int. Paid	2.50		8.85	
Unpaid Labour	9.20		8.42	
TOTAL PRODUCTION COSTS	146.53	7.41/Bu	139.34	5.49/Bu
D. MANAGEMENT FACTORS				
Return Over Operating Costs	28.96	1.46/Bu	71.69	2.82/Bu
Return to Management	-18.09	-0.91/Bu	16.66	0.66/Bu
Land Investment	807.87		498.49	
Building and Machinery Investment	159.61		156.25	
Labour Hours Used (per acre)	1.85		1.43	

SECTION VI

A COMPARISON OF COSTS AND RETURNS BETWEEN BEGINNING AND ESTABLISHED FARMERS

The Production Economics Branch extended its Regional Farm Enterprise Research Program to include beginning farmers in the Vermilion Region. The objective of this tentative effort is to compare the performance of beginning farmers with established producers to help determine the financial and other requirements needed to establish viable farming operations. Detailed input/output and costs/returns information that describe the relative performance and success of beginning farmers are essential to effective extension work with beginning farmers. Nineteen (19) beginning farmers were interviewed last winter to obtain 1981 cost of production information. Upon completion of analysis of the records obtained, individual and group results were reviewed with each participant.

Costs and returns for wheat, barley, canola, and oats for established and beginning farmers are presented in Table 31 to 34, inclusive. Referring to Table 31, beginning farmers reported an average wheat yield of 25.12 bushels per acre, an amount that was 17 per cent less than that experienced by the established farmers. Their total return per acre was $129.49 compared to $157.27 for the established farms. With respect to operating costs, established farmers cash rented/crop shared a larger portion of their acreage and thus, reported a much higher cost. The lower machinery investment per acre as observed for the beginning farmers implies the use of smaller and perhaps older equipment resulting in higher machine operating and labour costs and lower depreciation. Beginning farmers had an average operating cost of $74.63 per acre while established farmers had an average operating cost of $86.47 per acre. Also, because established farmers had a higher equity on land, machinery, and building investment, they had an opportunity cost of $46.29 per acre. For the beginning farmers their interest on investment was $37.49 per acre. Interest paid on long term debt was much higher (61 per cent) for beginning farmers at $12.76 per acre compared to $7.90 per acre for

established farmers. Beginning farmers had total production cost of $5.80 per bushel and, with a return of $5.16 per bushel, were short $0.64 per bushel in covering all production costs. On the other hand, established farmers had a production cost of $5.07 per bushel; with a return of $5.21 per bushel established producers were able to show a profit of $0.14 per bushel. It is important to note that beginning farmers reported machinery and building investment of $143.22 per acre, an amount that was 18 per cent less than that for established farmers. They also had a higher labour requirement at 2.75 hours per acre.

The yield difference between the established and beginning farmers for barley production was less than one bushel per acre (Table 32). With the established farmers showing higher material, cash rent/crop share, depreciation and miscellaneous costs their operating costs were $92.99 per acre ($2.07 per bushel) which were significantly higher than the $76.67 ($1.68 per bushel) reported by the beginning farmers. Long term interest paid by the beginning farmers amounted to $13.14 per acre, 51 per cent higher than that for the established farmers. Total production cost for the beginning farmers was $3.15 per bushel; with a return of $2.58 per bushel they were short $0.57 of covering their total production cost. For the established farmers an average cost of $3.43 per bushel was reported. The returns of $2.72 per bushel fell $0.71 per bushel short of covering their total production cost.

Shown in Table 33 are the costs and returns data for canola production for established and beginning farmers. Since the data are limited in scope, it should be stressed that the figures given are not a true reflection of canola production. As such, the reader is advised to exercise some caution when attempting to interpret or make use of this information. Average canola yield for the five beginning farmers studied was 22.71 bushels per acre as compared to 23.56 bushels per acre for the established farmers. The relatively higher operating cost for the beginning farmers at $94.30 per acre or $4.15 per bushel was due to higher material, cash rent/crop share, machinery operating, and miscellaneous costs. However, they did have significantly lower depreciation costs. A machinery and building investment cost of $105.60 per acre was indicated which was well below the $220.06 reported by the established farmers. Interest paid on long term debt by the beginning farmers

averaged $14.04 per acre or 96 per cent more than that reported by the established farmers. Total production costs for the beginning farmers averaged $149.92 per acre or $6.60 per bushel. With returns averaging $6.16 per bushel, the beginning farmers were short $0.44 per bushel in covering all their production costs. Established farmers had a total production cost of $6.11 per bushel and with a return of $6.25 per bushel realized a profit of $0.14.

With reference to Table 34, oat yield and returns were significantly higher for the established farmers at 56.86 bushels per acre and $117.00 per acre, compared to 43.71 bushels per acre and $74.98 per acre. Beginning farmers had lower operating costs per acre but because of the lower yield had higher costs per bushel produced. With operating costs of $1.55 per bushel and returns of $1.69 per bushel, beginning farmers had a return to their investment and labour of $0.14 per bushel. However, when the investment, long term interest paid, and operator labour costs are combined ($1.53 per bushel), they were short $1.40 per bushel in covering their total production costs. Established farmers had a similar total production cost figure on a per acre basis but because of the higher yields were only short $0.28 per bushel of covering all costs.

In summary, beginning farmers can be evaluated for the four crops studied as follows:

1. Beginning farmers had lower yields and consequently lower returns relative to established farmers;
2. With the exception of barley, beginning farmers had higher operating and total production costs on a per bushel basis;
3. Beginning farmers consistently reported lower machinery - building investment per acre resulting in lower depreciation and interest costs;
4. Long term interest paid by beginning farmers was about 51 to 90 per cent higher than that paid by the established farmers;
5. Beginning farmers indicated higher machine operating costs, as well as, a higher labour requirement;
6. Returns for the beginning farmers were insufficient in covering production costs for all crops studied.

TABLE 31: SUMMARY OF COSTS AND RETURNS FOR WHEAT PRODUCTION - 1981

	ESTABLISHED FARMERS		BEGINNING FARMERS	
A. Number of Farms	28		11	
Acreage Per Farm	152.46		236.73	
	- - - - - - - - - $ Per Acre - - - - - - - - -			
Yield (Bu. Per Acre)	30.17		25.12	
Total Value	149.79		122.37	
Miscellaneous Receipts	7.48		7.11	
TOTAL RECEIPTS	157.27	5.21/Bu	129.49	5.16/Bu
B. OPERATING COSTS				
Fertilizer	19.22		19.67	
Chemicals	6.79		6.50	
Seed	7.78		8.17	
Cash Rent & Crop Share	10.39		5.08	
Mach. Operating Costs	12.26		13.25	
Hired Labour	2.11		1.62	
Miscellaneous	11.60		8.58	
Interest on Operating Capital	2.46		0.74	
Depreciation	13.86		11.02	
TOTAL OPERATING COSTS	86.47	2.87/Bu	74.63	2.97/Bu
C. PRODUCTION COSTS				
Operating Costs	86.47		74.63	
Int. on Equity-Land	34.01		27.91	
Int. on Equity-Bldg. and Machinery	12.28		9.58	
Long Term Int. Paid	7.90		12.76	
Unpaid Labour	12.37		20.84	
TOTAL PRODUCTION COSTS	153.04	5.07/Bu	145.72	5.80/Bu
D. MANAGEMENT FACTORS				
Return Over Operating Costs	70.80	2.35/Bu	54.86	2.18/Bu
Return to Management	4.23	0.14/Bu	-16.23	-0.64/Bu
Land Investment	540.65		580.95	
Building and Machinery Investment	173.63		143.22	
Labour Hours Used (per acre)	2.03		2.75	

TABLE 32: SUMMARY OF COSTS AND RETURNS FOR BARLEY PRODUCTION - 1981

	ESTABLISHED FARMERS		BEGINNING FARMERS	
A. Number of Farms	42		15	
Acreage Per Farm	239.9		214.80	
	- - - - - - - - - $ Per Acre - - - - - - - - -			
Yield (Bu. Per Acre)	44.88		45.60	
Total Value	116.21		113.46	
Miscellaneous Receipts	5.87		4.11	
TOTAL RECEIPTS	122.08	2.72/Bu	117.57	2.58/Bu
B. OPERATING COSTS				
Fertilizer	20.37		20.69	
Chemicals	6.96		4.99	
Seed	7.08		6.76	
Cash Rent & Crop Share	9.49		5.46	
Mach. Operating Costs	13.52		13.94	
Hired Labour	3.54		3.07	
Miscellaneous	13.15		8.66	
Interest on Operating Capital	2.93		1.25	
Depreciation	15.95		11.85	
TOTAL OPERATING COSTS	92.99	2.07/Bu	76.67	1.68/Bu
C. PRODUCTION COSTS				
Operating Costs	92.99		76.67	
Int. on Equity-Land	30.22		26.46	
Int. on Equity-Bldg. and Machinery	10.93		7.65	
Long Term Int. Paid	8.69		13.14	
Unpaid Labour	11.02		19.82	
TOTAL PRODUCTION COSTS	153.84	3.43/Bu	143.74	3.15/Bu
D. MANAGEMENT FACTORS				
Return Over Operating Costs	29.09	0.65/Bu	40.90	0.90/Bu
Return to Management	-31.76	-0.71/Bu	-26.17	-0.57/Bu
Land Investment	579.74		675.95	
Building and Machinery Investment	208.35		133.42	
Labour Hours Used (per acre)	2.17		2.82	

TABLE 33: SUMMARY OF COSTS AND RETURNS FOR CANOLA PRODUCTION - 1981

	ESTABLISHED FARMERS		BEGINNING FARMERS	
A. Number of Farms	20		5	
Acreage Per Farm	167.55		185.6	
	- - - - - - - - - $ Per Acre - - - - - - - - -			
Yield (Bu. Per Acre)	23.56		22.71	
Total Value	143.21		136.29	
Miscellaneous Receipts	3.93		3.64	
TOTAL RECEIPTS	147.14	6.25/Bu	139.93	6.16/Bu
B. OPERATING COSTS				
Fertilizer	15.30		26.25	
Chemicals	7.47		10.24	
Seed	4.13		2.64	
Cash Rent & Crop Share	12.15		15.81	
Mach. Operating Costs	12.98		13.33	
Hired Labour	2.65		1.75	
Miscellaneous	12.21		14.49	
Interest on Operating Capital	3.90		1.22	
Depreciation	16.17		8.57	
TOTAL OPERATING COSTS	86.96	3.69/Bu	94.30	4.15/Bu
C. PRODUCTION COSTS				
Operating Costs	86.96		94.30	
Int. on Equity-Land	29.24		19.39	
Int. on Equity-Bldg. and Machinery	11.05		6.18	
Long Term Int. Paid	7.17		14.04	
Unpaid Labour	9.62		16.01	
TOTAL PRODUCTION COSTS	144.05	6.11/Bu	149.92	6.60/Bu
D. MANAGEMENT FACTORS				
Return Over Operating Costs	60.18	2.55/Bu	45.62	2.01/Bu
Return to Management	3.10	0.13/Bu	-10.00	-0.44/Bu
Land Investment	562.84		666.20	
Building and Machinery Investment	220.06		105.60	
Labour Hours Used	1.64		2.52	

TABLE 34: SUMMARY OF COSTS AND RETURNS FOR OATS PRODUCTION - 1981

	ESTABLISHED FARMERS		BEGINNING FARMERS	
A. Number of Farms	21		14	
Acreage Per Farm	56.86		43.71	
	- - - - - - - - - $ Per Acre - - - - - - - - -			
Yield (Bu. Per Acre)	63.20		44.39	
Total Value	109.60		71.02	
Miscellaneous Receipts	7.39		3.95	
TOTAL RECEIPTS	117.00	1.85/Bu	74.98	1.69/Bu
B. OPERATING COSTS				
Fertilizer	16.80		12.14	
Chemicals	3.47		1.64	
Seed	6.96		12.21	
Cash Rent & Crop Share	4.97		3.43	
Mach. Operating Costs	14.75		15.30	
Hired Labour	2.30		1.63	
Miscellaneous	11.71		11.25	
Interest on Operating Capital	4.30		1.34	
Depreciation	12.72		10.04	
TOTAL OPERATING COSTS	77.98	1.23/Bu	68.98	1.55/Bu
C. PRODUCTION COSTS				
Operating Costs	77.98		68.98	
Int. on Equity-Land	27.92		25.33	
Int. on Equity-Bldg. and Machinery	9.38		6.90	
Long Term Int. Paid	8.26		13.26	
Unpaid Labour	11.08		22.43	
TOTAL PRODUCTION COSTS	134.63	2.13/Bu	136.91	3.00/Bu
D. MANAGEMENT FACTORS				
Return Over Operating Costs	39.02	0.62/Bu	5.99	0.14/Bu
Return to Management	-17.63	-0.28/Bu	-61.93	-1.40/Bu
Land Investment	482.62		567.35	
Building and Machinery Investment	156.14		108.27	
Labour Hours Used (per acre)	2.48		3.37	

SECTION VII

A COMPARISON OF COSTS AND RETURNS FOR GRAIN PRODUCTION BY SOIL TYPE

It is generally recognized that costs and returns vary among farms because of differences in weather, input use, management, and soil type. With crop data available for approximately 50 farms, an attempt was made to outline the expenditures, yields, and expected returns for crops grown on different types of soil[1].

The Statistics Branch of Alberta Agriculture provided the following yield estimates by soil type for the major crops grown in the 1981 crop year.

TABLE 35: YIELD ESTIMATES OF VARIOUS CROPS ON DIFFERENT SOIL TYPES - 1981

	THIN-BLACK	DARK-BROWN	GREY-WOODED
	- - - - - - - - -	Bu. Per Acre	- - - - - - - - -
Wheat	29.1	27.2	31.3
Barley	42.2	37.9	44.3
Canola	22.9	23.8	20.0
Oats	55.3	48.6	60.7

In general, yields for the above crops were estimated to be highest for the grey-wooded soils within the Vermilion Region. Canola yields were estimated to be the highest for the dark-brown soils. That is, 0.9 bushels per acre higher than that estimated for the thin-black soils. These results are quite contrary to what was expected as the higher valued thin-black soil was supposed to be more productive.

After consulting with the Regional Economist in the Vermilion Region, farms under study from the different areas were categorized in the following manner:

1 Statistically, the number of farms in each sub-category is insufficient to represent the various farming enterprises in the Vermilion Region. Hence, it is suggested that the data contained in this section be regarded as general information and that no specific conclusions be drawn.

Soil Type	Agricultural District
1. Grey-Wooded:	Lac La Biche (I.D. #18)
	Bonnyville (M.D. $87)
	St. Paul (County #19)
	Smoky Lake (County #13)
2. Thin-Black:	Lamont (County #30)
	Two Hills (County #21)
	Vermilion River (County #24)
	Minburn (County #27)
	Beaver (County #9)
3. Dark-Brown:	Wainwright (M.D. #61)
	Provost (M.D. #52)

Costs and returns data are presented in Table 36 for wheat production on thin-black, dark-brown, and grey-wooded soils. As can be seen, yield variation was marginal ranging from 28.12 bushels per acre in the grey-wooded soil to 28.80 bushels per acre in the thin-black soil. Although receipts per acre were the highest for wheat grown on thin-black soil, net returns per acre were negative due to the relatively higher investment and operating costs. Returns were $0.55 per bushel or $15.71 per acre short of covering all production costs. Return to management for wheat grown on grey-wooded and dark-brown soils were $8.45 and $20.90 per acre, respectively.

The production of canola on thin-black and grey-wooded soils can be compared using Table 37. Canola growers on thin-black soil had a 45 per cent yield advantage compared to the grey-wooded group. The difference in actual returns received was further compounded by the fact that the growers on thin-black soil harvested higher quality canola averaging $6.34 per bushel ($158.62 per acre) whereas, growers on grey-wooded soil averaged $5.61 per bushel ($97.20 per acre). As no data for canola production on dark-brown soils were available cost comparision was limited to the two soil types mentioned above.

TABLE 36: SUMMARY OF COSTS AND RETURNS FOR WHEAT PRODUCTION BY SOIL TYPE - 1981

		THIN-BLACK		DARK-BROWN		GREY-WOODED	
A.	Number of Farms	21		7		9	
	Acreage Per Farm	193.60		227.00		77.63	
		- - - - - - - - - $ Per Acre - - - - - - - - -					
	Yield (Bus. Per Acre)	28.80		28.39		28.12	
	Total Value	143.82		141.95		132.72	
	Miscellaneous Receipts	5.71		7.30		5.53	
	TOTAL RECEIPTS	149.53	5.19/Bu	149.25	5.26/Bu	138.25	4.92/Bu
B.	OPERATING COSTS						
	Fertilizer	22.64		13.35		14.32	
	Chemicals	6.61		8.10		2.04	
	Seed	8.06		8.18		8.05	
	Cash Rent & Crop Share	8.24		3.81		23.04	
	Mach. Operating Costs	13.93		10.10		13.53	
	Hired Labour	2.76		0.60		2.68	
	Miscellaneous	12.59		9.97		10.59	
	Interest on Operating Capital	1.57		1.77		3.71	
	Depreciation	15.56		13.34		14.36	
	TOTAL OPERATING COSTS	91.96	3.19/Bu	69.22	2.44/Bu	92.32	3.28/Bu
C.	PRODUCTION COSTS						
	Operating Costs	91.96		69.22		92.32	
	Int. on Equity-Land	35.91		21.93		15.87	
	Int. on Equity-Bldg. and Machinery	11.89		8.15		6.14	
	Long Term Int. Paid	10.95		10.30		4.59	
	Unpaid Labour	14.53		18.85		10.90	
	TOTAL PRODUCTION COSTS	165.24	5.74/Bu	128.35	4.52/Bu	129.80	4.62/Bu
D.	MANAGEMENT FACTORS						
	Return Over Operating Costs	57.57	2.00/Bu	80.03	2.82/Bu	45.93	1.63/Bu
	Return to Management	-15.71	-0.55/Bu	20.90	0.74/Bu	8.45	0.30/Bu
	Land Investment	626.28		418.64		349.51	
	Building and Machinery Investment	175.39		131.74		143.60	
	Labour Hours Used	2.29		2.46		2.15	

Material costs were 21.5 per cent higher on thin-black soil at $32.69 per acre as compared to $26.90 per acre for the grey-wooded soil. Machine operating costs and depreciation were also significantly higher at $28.45 per acre compared to $23.03 per acre for the grey-wooded group. Operating costs on a per acre basis were 6.6 per cent higher on the thin-black soil as compared to the grey-wooded soil. However, these high operating costs were more than offset by the higher yield as the operating costs per bushel for the thin-black and grey-wooded soils were $3.62 and $4.90 per bushel, respectively.

Non-cash costs were also higher on the thin-black soil type mainly because of higher land values and a higher machinery investment per acre. Returns were insufficient by $0.04 per bushel and $1.63 per bushel for the thin-black and grey-wooded soil, respectively, of covering the total production costs. Land, buildings, and machinery investment per acre for the thin-black soil group was $868.71 compared to $641.54 for the grey-wooded soil group.

As indicated previously, barley was the most extensively grown cereal crop on the participating farms in the Vermilion Region. Costs and yield differences for barley production on the thin-black, dark-brown, and grey-wooded soils are shown in Table 38. Barley yield on grey-wooded soil as 17 per cent higher than that on thin-black soil, and 65.6 per cent higher than that on dark-brown soil. The grey-wooded soil group with returns of $137.77 per acre and total production costs of $120.76 per acre was the only group showing a positive return to management of $17.01 per acre or $0.32 per bushel. This group also indicated the lowest investment per acre at $475.56 per acre as opposed to an investment of $931.27 per acre for the thin-black soil, and $593.67 per acre for the dark-brown soil group.

Other noticeable differences in the cost of production by soil type were the relatively high material, machine operation, hired labour, and interest on investment costs experienced by the group on thin-black soil. They had the highest operating costs ($94.09 per acre or $2.10 per bushel) and the highest total production costs ($172.51 per acre or $3.86 per bushel). The lowest production cost on a per acre basis was reported for the dark-brown soil group as operating costs were $63.32 while total production costs as $117.52.

TABLE 37: SUMMARY OF COSTS AND RETURNS FOR CANOLA PRODUCTION BY SOIL TYPE - 1981

		THIN-BLACK		GREY-WOODED	
A.	Number of Farms	17		7	
	Acreage Per Farm	165.50		152.86	
		- - - - - - - - - $ Per Acre - - - - - - - - -			
	Yield (Bu. Per Acre)	25.03		17.32	
	Total Value	154.39		93.48	
	Miscellaneous Receipts	4.23		3.72	
	TOTAL RECEIPTS	158.62	6.34/Bu	97.20	5.61/Bu
B.	OPERATING COSTS				
	Fertilizer	19.63		16.96	
	Chemicals	10.13		4.92	
	Seed	2.93		5.02	
	Cash Rent & Crop Share	12.20		12.74	
	Mach. Operating Costs	13.20		11.96	
	Hired Labour	2.47		3.13	
	Miscellaneous	12.06		14.48	
	Interest on Operating Capital	2.68		4.68	
	Depreciation	15.25		11.07	
	TOTAL OPERATING COSTS	90.55	3.62/Bu	84.96	4.90/Bu
C.	PRODUCTION COSTS				
	Operating Costs	90.55		84.96	
	Int. on Equity-Land	36.68		11.93	
	Int. on Equity-Bldg. and Machinery	12.56		5.48	
	Long Term Int. Paid	8.29		11.40	
	Unpaid Labour	11.61		11.71	
	TOTAL PRODUCTION COSTS	159.70	6.38/Bu	125.49	7.24/Bu
D.	MANAGEMENT FACTORS				
	Return Over Operating Costs	68.07	2.72/Bu	12.24	0.71/Bu
	Return to Management	-1.08	0-.04/Bu	-28.29	-1.63/Bu
	Land Investment	703.15		491.24	
	Building and Machinery Investment	165.56		150.30	
	Labour Hours Used	1.93		2.02	

TABLE 38: SUMMARY OF COSTS AND RETURNS FOR BARLEY PRODUCTION BY SOIL TYPE - 1981

		THIN-BLACK		DARK-BROWN		GREY-WOODED	
A.	Number of Farms	26		6		20	
	Acreage Per Farm	296.23		195.33		192.22	
		- - - - - - - - - $ Per Acre - - - - - - - - -					
	Yield (Bu. Per Acre)	44.71		31.72		52.52	
	Total Value	114.78		79.29		134.31	
	Miscellaneous Receipts	5.37		2.81		3.46	
	TOTAL RECEIPTS	120.15	2.69/Bu	82.10	2.59/Bu	137.77	2.62/Bu
B.	OPERATING COSTS						
	Fertilizer	22.78		16.02		16.90	
	Chemicals	7.37		5.04		4.17	
	Seed	7.10		5.71		7.39	
	Cash Rent & Crop Share	5.93		6.11		12.67	
	Mach. Operating Costs	14.65		8.50		12.66	
	Hired Labour	4.00		0.81		2.99	
	Miscellaneous	12.91		4.12		13.19	
	Interest on Operating Capital	1.73		1.15		4.50	
	Depreciation	17.62		16.16		11.94	
	TOTAL OPERATING COSTS	94.09	2.10/Bu	63.32	2.01/Bu	86.41	1.65/Bu
C.	PRODUCTION COSTS						
	Operating Costs	94.09		63.22		86.41	
	Int. on Equity-Land	40.77		21.07		9.07	
	Int. on Equity-Bldg. and Machinery	12.58		7.66		5.81	
	Long Term Int. Paid	10.82		9.02		8.68	
	Unpaid Labour	14.24		16.46		10.78	
	TOTAL PRODUCTION COSTS	172.51	3.86/Bu	117.52	3.71/Bu	120.76	2.30/Bu
D.	MANAGEMENT FACTORS						
	Return Over Operating Costs	26.06	0.58/Bu	18.48	0.58/Bu	51.36	0.98/Bu
	Return to Management	-52.36	-1.17/Bu	-35.73	-1.13/Bu	17.01	0.32/Bu
	Land Investment	737.79		461.02		366.60	
	Building and Machinery Investment	193.48		132.65		108.96	
	Labour Hours Used	2.49		2.01		1.98	